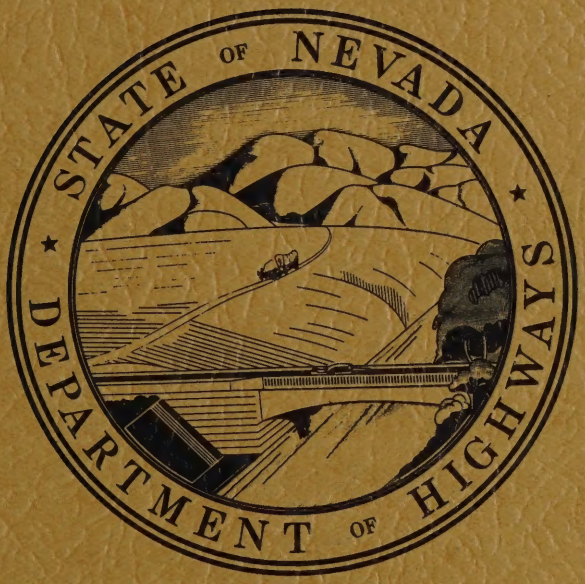
Supplement to the 23rd Biennial Report

Fiscal Years 1961-1962



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TWENTY-THIRD BIENNIAL REPORT

FISCAL YEARS 1961-1962

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DEPARTMENT OF HIGHWAYS

To the Honorable Members of the Board of Directors
Nevada Department of Highways
and the Nevada State Legislature

This booklet is being submitted as a supplement to the 1961-1962 Biennial Report. This supplement provides a more detailed description of Department activity including charts and tables omitted from the Biennial Report for the purpose of simplification and brevity.

P. O. Wright

State Highway Engineer

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NEVADA HIGHWAY DEPARTMENT
ORGANIZATION CHART

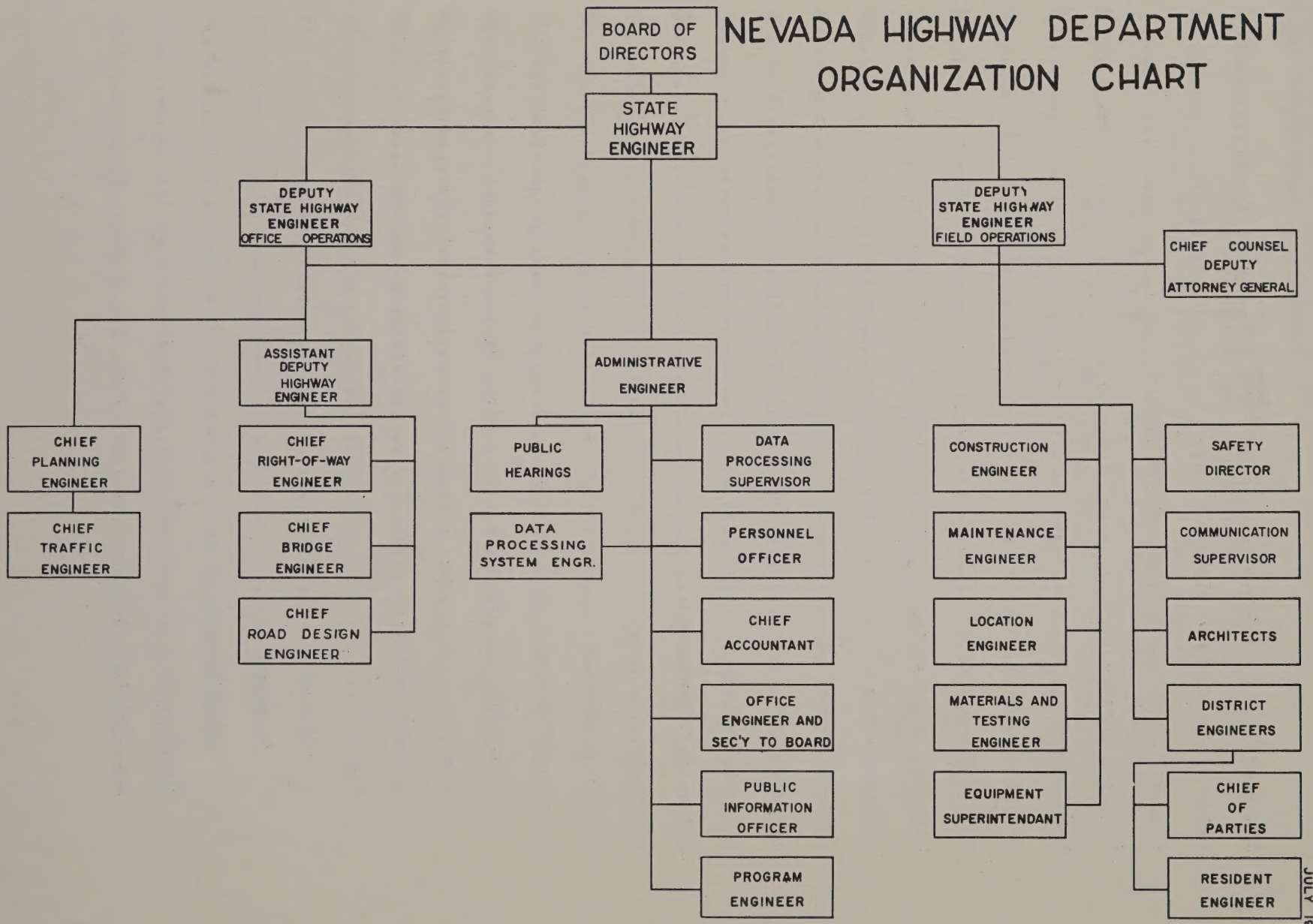


FIGURE I-101.2
JULY 1962

ADMINISTRATIVE OFFICIALS

Board of Directors

Grant Sawyer, Governor	Chairman
Roger Foley, Attorney General	Member
Keith Lee, Controller	Member

Department Heads

W. O. Wright	State Highway Engineer
R. E. Eldredge	Deputy Highway Engineer
John E. Bawden	Deputy Highway Engineer

Division Heads

A. G. Kinne	Asst. Deputy Highway Engineer
D. H. Hays	Administrative Engineer
O. W. Walker	Chief Road Designer
E. T. Boardman	Chief Bridge Designer
Orvis Reil	Chief Planning Survey Engineer
James T. Wallace	Chief Right of Way Engineer
Robert J. Potter	Chief Counsel
Frank Quilici	Highway Equipment Superintendent
Victor W. Clyde	Construction Engineer
H. A. Squires	Maintenance Engineer
L. W. Little	Chief Testing Engineer
F. H. Morrison	Research Engineer
W. H. Gibson	Location Engineer
Ralph J. Ottini	Traffic Engineer
Stanley D. Sundeen	Office Engineer
Henry L. Clayton	Personnel Officer
Clarence S. Eiche	Chief Accountant
Donald L. Bowers	Public Information Officer
Joseph A. Moore	Safety Director

District Engineers

G. B. Brockway, District Engineer	District One, Las Vegas
Vernon Sharp, Asst. District Engineer	District One, Las Vegas
Jack Parvin, District Engineer	District Two, Reno
Michael J. Colletti, Asst. District Engineer	District Two, Reno
Paul E. Robbins, District Engineer	District Three, Elko
Henry H. Mayer, Asst. District Engineer	District Three, Elko
J. A. Glock, District Engineer	District Four, Ely
Owen Joseph, Asst. District Engineer	District Four, Ely
C. L. Brown, District Engineer	District Five, Tonopah
Dale V. Rose, District Engineer	District Six, Winnemucca
A. A. Howard, Asst. District Engineer	District Six, Winnemucca

PLANNING SURVEY

Activity of the planning survey division has increased to a point where the division now plays a major role in the development of administrative decisions, in addition to its former role of providing information for planning the construction program. Technical studies were conducted and the statistical and trend information obtained was used in formulating administrative policy.

With the growth of planning responsibility during the past two years, the division was reorganized to include nine sections capable of making studies on an individual or joint basis. Added to the former sections for road inventory, mapping, photogrammetry, traffic, road life, financial planning, and special studies were a section for geodetic studies and one for aerial reconnaissance. In addition the division supervised the sectional operation for graphic arts and photography.

Inventory

The third cycle of road inventory was in progress throughout the biennium with one party of two men devoting full time to the project.

City street mapping inventory was kept current in incorporated cities and in unincorporated towns of 1,000 or more population. Log notes were coded for IBM tabulation for use in mapping and statistical projects.

The following road logs were compiled:

1. Federal-aid Highway System, Comprising the Primary State Highway System
2. Federal-aid Secondary System
3. Non-Federal-aid State Routes
4. U.S. Route and Alternate Routes
5. Federal Forest Highway System
6. Status of Road Systems

The inventory section was responsible for the preparation of semi-annual tabulations of mileage and cost distribution on the federal-aid secondary system. This section also was responsible for continuing the Department's sufficiency rating study. This survey provides a check list of actually existing road conditions as compared with current design standards. The study is a continuing one on road deficiencies and inadequacies and provides a guide for construction priorities. Traffic volumes warranting, substandard sections of road may be segregated and studied for programming. The data obtained from the study contribute much to the State Highway Department in the preparation of a system of priorities for construction, reconstruction, and maintenance, based on actual physical needs. It provides legislative representatives and the general public with a readily understood and yet scientific approach to the over-all highway problem.

During the biennium the sufficiency rating study was expanded to include the federal-aid secondary as well as the federal-aid primary system. Urban areas of 5,000 population were excluded. Three thousand eight hundred and seventy-five miles of roadway were rated for condition, safety, and service.

Mapping

Continuing expansion of business and governmental activities created a greater need for maps to satisfy demand. To keep pace, the mapping section prepared and published many types of maps and related material:

General Highway maps for Elko and White Pine counties (published)

Nye County map of General Highway Series (nearing completion)

Urban area maps for Reno, Sparks, Las Vegas, North Las Vegas, Henderson, Carson City, and Elko (published)

City maps of Carlin, Elko, Wells, and Winnemucca (nearing completion)

State traffic flow and traffic station maps for 1960 and 1961 in two-color reproduction (published)

Elko County traffic flow map in two-color reproduction (published)

Work was not entirely confined to regular cartographic maps. Many types of reports were completed; including maps for the sufficiency rating report; control section maps; impost graphs; engineering district and maintenance station maps; sketch maps for proposed federal-aid secondary routes; and many other types of charts, graphs, and maps for other divisions of the Department and for public relation purposes.

Display material, such as color slides and maps, was prepared for presentation to county officials and citizens in areas where public hearings on proposed new highway construction were held.

Aerial photo mosaics and plans for aerial contract bids were completed. These mosaics received wide use in design planning and in the highway presentations made in the many public hearings held during the biennium.

Because of an accelerated highway program, the mapping section utilized new developments in the drafting and reproduction fields and conducted research and experiments which increased productivity and added new techniques.

In line with this endeavor, in December of 1961, personnel attended a reproduction and drafting seminar conducted in Los Angeles by the Visual Communications Congress, sponsored by the Society of Reproduction Engineers, the American Institute for Design and Drafting, and the American Records Management Association.

Photogrammetry

During this biennium two aerial contracts were checked and approved, ASC 13 and 14, providing topographic maps for the design of 18.7 miles of freeway alignment on Interstate Route 80.

Due to the current supply of topographic maps for design purposes no additional aerial survey contracts were let, consequently this section has assumed the following additional functions.

1. Installing and operating a complete index and file of highway aerial photographs on a continuing basis, and routing of requests for prints and additional photo coverage. This section also supervised the activities of the aerial reconnaissance pilot.

2. Preparing, compiling, filing and supplying reproductions of aerial mosaics for design purposes, public hearings, right-of-way acquisitions, etc.

3. Supervising and planning of activities of the planning survey geodetic control party.

4. Supplying photogrammetric information to the design section and assisting that section in the application of such information, including existing horizontal and vertical controls.

5. Perpetuating existing horizontal and vertical control points on the ground during construction projects.

Geodetic

During the biennium, the geodetic section was active in the following four fields:

1. County Mapping--Information was computed and made available to the mapping section on the basic control data and traverses for the counties of Elko, White Pine, and Nye. In addition a traverse was prepared for Washoe County.

2. Aerial Surveys and Mosaics--Completed and checked the control on aerial survey contract 14 and checked utilization of the control by the contractor in the aerial mapping.

Control on aerial survey contract 15 was completed in record time under adverse conditions, utilizing new equipment and data processing techniques. (See section 3)

Preliminary research was completed for the establishment of control on aerial survey contract 16.

A portion of the control was supplied for use in the orientation of mosaics assembled in this division.

3. New Equipment and Research on the Utilization of New Methods in Calculation of Field Data--planning survey acquired a Cubic Electrotape. (Microwave distance-measuring equipment)

In cooperation with the assistant planning survey engineer and the field control crews, extensive testing of this new equipment was conducted to establish its useful limits in precise control work. Following satisfactory completion of the tests, a system was set up to obtain maximum utilization of data processing of the computations involved in the control work.

Utilization of this new equipment and data processing techniques is making it possible to complete control on aerial survey contract 15 in less than half the normal time, under conditions that would have made normal control procedures virtually impossible.

4. Cooperative Efforts of this Section with Other Sections of Planning Survey and the IBM Section:

In geodesy and engineering, Electrotape reduction has been programmed, and geometrics have been adapted and utilized.

Work on a geodetic program was begun.

In road life studies, the sufficiency rating study was programmed, and systems of operation in data processing on this report were established. In traffic reporting, a comprehensive report based on data from fixed recorders was programmed and a system of handling established. Work was started on a revision of this program to obtain additional programs on high thirty-hour traffic, and coordination of portable and fixed counters is in progress.

This section is an active member of and the planning survey representative on the Department's Data Processing Steering committee.

Aerial Reconnaissance

During the biennium aerial reconnaissance in the Department of Highways experienced a steady increase of activity, and the scope of this operation was broadened considerably.

One of the prime factors was the increased use of aerial photography and mosaic compilation for the purpose of public hearings. Current aerial photographs proved quite successful in the role of portraying proprosed routing and alignment with relation to property and topography involved. Numerous areas were flown. The mosaics compiled and displayed throughout the state were favorably accepted by the general public.

Design division personnel contributed also to the growth of aerial reconnaissance with a continued increase in the demand for current aerial photographs. Many hundreds of pictures were taken for the purpose of studying alignment, drainage areas, and topography.

Location found an increasing need for aerial photos to aid in finding the most feasible and desirable routing for proposed new highways.

Planning survey used numerous high altitude aerial photographs for map-making and for establishing current street patterns in widely scattered communities.

Right-of-way became a big user of aerial photography. In addition to the use of vertical photography in the study of controversial property evaluation, it is important to note that the right-of-way section found an ever-increasing demand for aerial obliques. The oblique photographs were used in condemnation suits and proved their value in court on many occasions.

Public relations used an increasing number of aerial photographs in informing the public of current construction projects, large structures, and completed four-lane highways.

Materials and testing found only occasional use for aerial reconnaissance, but it is felt that the use of aerial photography and visual aerial scouting to aid in the location of material deposits has been only partially exploited.

During November 1961, aerial reconnaissance became a section of the planning survey division, and since that time new equipment has been acquired. With the assistance of planning personnel, improvements have been made in camera installations, resulting in better accuracy of photographs obtained.

The acquisition of oxygen equipment has made it possible to obtain wider coverage from higher altitudes--several photographic missions have been accomplished at 18,000 feet and one strip east of Elko was flown over the design division at an altitude of 25,000 feet.

To accomodate the cameras in use, the aircraft's electrical system was converted from 12 to 24 volts. The outmoded method of pointing a camera out the window for oblique photography was replaced with an electrically operated aerial camera. This camera is capable of taking 100 pictures at 1/900 of a second every 4/10 of a second. This pilot zeros the camera in from the cockpit and trips the shutter by merely pressing a button on the control stick.

Traffic

Assembling of traffic-volume information for streets and highways throughout the state continued to be an important feature in planning activity. Data obtained was of prime importance to preliminary design, and also served state agencies and the general public.

Twenty-one key traffic recorder sites throughout the state were occupied on a continuous basis, and from these traffic recorders were derived hourly and daily traffic values which served as prime factors for the statistical development of annual traffic at 1,350 additional statewide counting sites on a regular and continuing schedule.

This traffic study on state-interest roads and streets has been supplemented by an inventory of all rural roads and city streets. During the biennium rechecks of Clark County and Washoe County were completed, and reinventory of five additional counties begun to provide a continuing program of current traffic figures for all streets and highways in the state.

As part of the preliminary engineering and investigation for the construction of the Interstate Highway system across Nevada, several public hearings were held to inform the general public of proposed plans. Traffic conditions were included in all presentation material so that interested business concerns and individuals would be informed of the reasons for certain types of design proposed for construction.

Continuing publications of the traffic section included an Annual Traffic Report which carried current information on all state-interest roads on an annual basis, and a Tabulation of Annual Traffic Census, which lasted for a ten-year period, the 16-hour July traffic figures for over 100 key sites throughout the state.

Numerous special traffic studies were conducted for the determination of stoplight justifications and for supplemental traffic information of a specific nature.

Road Life

The prime objective of the road life section is to keep current records of the physical aspects and their changes on all state-interest roads. This involves the compilation of factual data on length, width, surface type, year of construction, improvement and retirement records, and cost studies.

The following publications and reports were compiled on an annual basis to distribute information concerning the status of state-interest roads:

Control Section Index
Control Section Index Maps
Federal-aid Secondary Descriptions
State Mileage Tables
Interstate System Traveled-way Study

The last of these, the Interstate System Traveled-Way Study, is a new report required by the Bureau of Public Roads. It gives a complete accounting of all the physical characteristics of the Interstate system within Nevada as well as other significant information, such as average daily traffic and traffic fatalities, whereby the adequacy of the system may be determined. It was first submitted for the year 1961 and is to be updated each year. Included as part of the study is an annual field inspection of the entire Interstate system.

Distribution of the RL-7 graphs (record of construction characteristics) in a reduced bound form was continued. All routes except the Interstate have now been distributed. Work is underway on the Interstate routes, and graphs on Interstate 80 should soon be ready for distribution.

Financial

Monthly publications included tables and graphs on motor-vehicle user revenues and vehicle registrations, with comparative calendar and fiscal year tables and graphs for previous years.

A broad review of the Department's financial status, present and anticipated, which is used in considering improvement of the operation of the Department, was carried out as a continuing study. It included a monthly report

to the administration indicating budget-operation comparisons by type of work; and other reports indicating federal vouchered and reimbursed status, right-of-way and escrow status, federal project agreement status, and related revenue reports.

A study of work flow and production man-hours by type of highway operation was initiated and will be continued in future operations for administrative use.

This section was concerned with fiscal-year financial operations of local governmental units below state level in connection with streets and allied street functions, such as street lighting, parking meters, storm sewers, and off-street parking. Included were debt service for all indicated types of functions and expenditures by all agencies providing funds for streets and roads.

Special Studies

One of the more important assignments given to this section was compiling extensive test cases on economic effects of bypassing a community with freeway construction. Results of the application of this information to local conditions along with new cost-benefit ratio calculations were presented at the public hearing on Interstate Route 80 from the state line west of Verdi to Vista. The meeting was held in Reno. Personnel from the section presented the Department's findings and views on the subject of highway economics as members of a panel of speakers which appears at all public hearings where urban areas are involved.

A comprehensive truck licensing and registration study was undertaken by this section in cooperation with the Motor Vehicle Department and Highway Patrol. Data from the study are being compiled in report form and will be discussed at a joint meeting of all departments involved. Findings from the discussions may play an important part in determining future income to the Highway Department from truck licensing and registration sources consistent with desired extent of enforcement as recommended in the report.

A study of parking conditions in and for the City of Carson was conducted. Field work was completed and the formal report with recommendations for future parking facilities and enabling legislation will be completed in late 1962. The findings and recommendations will be presented to the city council when the report is published.

A shortened version of a parking study was taken on South Virginia street in Reno to determine usage of available parking space. The information was used to determine the feasibility of prohibiting parking on a section of U.S. 395. (South Virginia street)

An inventory of parking space was taken to determine the effectiveness of recommendations made in a parking study taken for the City of Reno in 1950.

Initial steps were taken toward eventual study of traffic accidents and fatalities on the Interstate Highway system. Test sections of completed freeway were established. Results of a study of accident reports on these

sections will now be used in developing more accurate reporting of traffic accidents. This will continue as an annual study on an expanded basis.

Special studies section assisted in reviewing work performed by consultant engineering firms hired by the Department and provided them with information from past studies and research material compiled in the planning survey division. Reviews were made of the Las Vegas Parking study and the Las Vegas Valley Highway and Street study.

A major origin and destination study was conducted in the west Las Vegas area for use in determining type and location of the Highland avenue interchange on Interstate Route 15 through Las Vegas.

Still another study was made on U.S. 50 serving the south Lake Tahoe area. Data will be used to determine location of a proposed route bypassing the built-up area of south Tahoe, how many connector roads will be necessary, and the probable volume of traffic which will remain on present U.S. 50. Annual weight studies required by the U.S. Bureau of Public Roads were carried on in each year of the biennium. Data were expanded for use by the design division to fullfill weight application information required by the Bureau of Public Roads on all future construction projects. A vehicle classification study was made concurrently with the truck-weighing to determine the extent of small and compact cars in the traffic stream. Truck weighing at selected locations throughout the state was conducted with and at the request of the highway patrol for enforcement of overloading regulations.

With the acquisition of new radar speed-timing apparatus, a large number of requests for speed information by city, county, and state officials were fulfilled. This information will be used to determine need for speed control zones and signing.

A traffic study on U.S. 91 (Strip area) in Las Vegas was conducted complete with vehicular turning movements, speeds, and accident information. These data will be used to determine location of vehicle holding lanes, traffic signals, and other accident preventive measures on this heavily traveled section of highway.

A train-crossing study was completed in Winnemucca to determine need for a railroad underpass for vehicles to eliminate the present waiting for trains.

Time studies were completed in Winnemucca and Elko to ascertain travel times between points within the cities. The information is used in determining benefits derived by motorists as the result of freeway construction through these areas.

The section continued its participation in the Western Council for Travel Research and was represented at meetings of that organization. A member of this section served as national president of the council and still another was assigned to an important committee.

PHOTOGRAPHY

The photographic section fulfills all photographic requests within the Department other than line work and aerial photography.

This entails photography for HIGHWAYS AND PARKS, the official Highway Department magazine, color photography for NEVADA HIGHWAYS, the Department's official road map, public relations, construction, testing, industrial, right-of-way, and visual aids.

During the biennium this section added a photographer to handle the greatly increased work load, primarily in the public information and public relations field.

REPRODUCTION AND GRAPHIC ARTS

This section reproduces a wide variety of specialized drawings and related items. All jobs are grouped into classes. Sizes are limited by sheet size and maximum printing area of the machines. Equipment used includes a Scan-A-Graver, a blueprint and a dry print machine, large vacuum frame, line copy camera, Salzman enlarger, and a verifax machine. Highway contract plans are reproduced on a multilith press.

During the biennium all reproduction requirements of the many sections involved in highway design were handled, the majority of such requests emanating from roadway design division (Interstate, primary, and secondary) and from the planning survey division.

Administrative procedure in this section is essentially the same as in any organization handling work demanding special skills. All-round training in all phases of reproduction and graphic arts is necessary for coordinating the organization, but maximum quality and efficiency result only from specialization.

ROAD DESIGN

The function of the design division is to prepare plans, estimates and specifications for all construction, reconstruction and betterment projects undertaken by the Highway Department. This includes, in addition to highways, the various projects necessary to modernize and expand the highway plant to provide facilities for administration and maintenance.

During the biennium the design division was reorganized to provide adequate supervision for the three major sections, i. e., Interstate, Primary and Secondary and Urban. The Department was fortunate in having available within the design division highly qualified personnel who were promoted by examination and personal interview, to fill all supervisory positions including designers, senior designers, principal designers, road design engineers and chief road design engineer. However, the Department has not been able to recruit experienced personnel to fill all required positions or vacancies for assistant designers, engineering aides or map draftsmen. Numerous engineering aides are hired in order to train and/ or educate personnel to fill higher positions, but the turnover in this area is very high due to low salaries and the average youthfulness of the employee. Many are still seeking work to their liking, working to complete a college education or faced with a military obligation. The division is at a critical low employment level in the lower classifications of design. There was an average of 90 employees in the design division during the biennium which is approximately the same number employed during the 1959-60 biennium.

A manual setting forth the standards, policies, procedures, etc. to be used in the design of secondary, primary, urban and Interstate highways was compiled and placed in the hands of all design personnel and other interested and/ or allied highway divisions. This will greatly assist design personnel in the preparation of uniform construction plans on all of the highway systems in Nevada.

The data processing section of the Department acquired a new electronic computer and other peripheral equipment during the biennium. This new computer will be a valuable asset to all engineering divisions as more and more programs are developed for the calculations of preliminary and final earthwork, traverses, bridge design, bid tabulations and a running cost index.

During the biennium extensive use has been made of the aerial photographic section to develop aerial mosaic strip maps for use in design, public hearings, and for providing general public information.

During the biennium the following projects were designed and placed under contract:

Number	Type	Cost	Mileage
10	Interstate highway projects	$23,189,845.76	93.613
13	Primary highway projects	9,585,038.93	117.652
9	Secondary highway projects	4,506,858.53	98.866
1	Urban highway project (traffic signal system)	24,600.00	---
1	Access highway project ** (Sandia, AEC Missile Range)	229,894.94	19.583
1	Access highway project ** (Tonopah Radar Site)	168,891.85	4.748
5	Maintenance Stations *	549,444.78	---
2	Well drilling projects *	7,908.20	---
42		$38,262,482.99	344.462

Preliminary engineering costs on the above projects amounted to $1,906,454.18 or 4.9 % of the total construction cost.

Consulting engineers were retained during the biennium for the survey, design and preparation of plan for Interstate Freeway construction through the urban sections of Reno-Sparks and Las Vegas-North Las Vegas at a cost of $769,918.08.

*Financed entirely with state funds.

**Financed with special federal funds.

BRIDGE DESIGN

Construction of bridges and grade separations increased greatly during the 1961-62 biennial period. During the past two years the Department constructed 91 new structures and widened seven old ones at a cost of $5,228,660. Expenditures more than doubled over the previous biennium when $1,954,432 was spent on 48 structures.

The greater portion of this activity was on the Interstate system where 45 structures were included as part of contracts on Interstate 80 and 39 on Interstate 15. Three of the projects featured the use of prestressed concrete in the construction of bridge decks. It was found that using this type of concrete in bridge work was comparable in cost with the use of structural steel.

During the biennium, the need arose for obtaining more accurate information on natural material used in the foundations for freeway structures. To provide the required data, consulting engineers who specialize in this field were hired on several occasions. Their reports advised the Department on the need for bridge piles and what lengths would be required. In addition their studies indicated the allowed bearing value of the foundation material, if piles were not needed. This information gave the bridge section a more reliable basis for decisions on design, and in many cases pointed out more economical means for construction.

On July 1, 1961, the U.S. Geological Survey and the Nevada Department of Highways agreed to a cooperative program for flood investigation in the state. Under this agreement the U.S.G.S. has been establishing gauging stations to measure high water at many locations that were dry most of the year and where no data had been obtained previously. At the same time, regular gauging stations provided the Department with high water marks and maximum flow on live streams. From this continuing study, design sections were better able to determine the size requirements for the larger culverts and bridges. In the past year data were obtained on cloudburst stream flow crossing U.S. 50 between Fallon and Eastgate in August and September 1961, and on flooding streams in the Humboldt and Reese river basins between Battle Mountain and Wells in February 1962.

As the biennial period closed, there were plans completed on 107 bridges and grade separations awaiting construction. Of these, 47 had been designed by consultants and 60 by the bridge division. Included were 103 on Interstate projects and four on primary and secondary routes.

RIGHT OF WAY

The right of way division has as its responsibility the acquisition of all real properties and property rights that are required for highway purposes. These include rights of way, maintenance station sites, material sites, radio tower sites, roadside recreational sites, and access rights. To accomplish this requires a study of the proposed highway design as it will affect property to be traversed, determination of ownership, preparation of maps and land descriptions, appraisals, preparation of agreements, deeds, and other legal documents, and lastly, the negotiations for the needed property by right-of-way agents.

The division arranges to move or adjust various utilities from within the properties acquired so that they will not interfere with highway construction. The removal, demolition, or other disposition of improvements from the properties acquired is also handled by the division.

Because of the growing size of the highway program and the increased participation by the federal government in the cost of obtaining and administering rights of way for federal-aid projects, the Bureau of Public Roads is becoming increasingly concerned with complicated right-of-way problems. The Bureau accordingly has issued many new regulations governing reimbursement of expenditures made by the states for right-of-way acquisition, clearance and administration. These regulations have given additional responsibilities to the Department.

At the end of the biennium there were 40 employees at headquarters in Carson City and 7 in the Las Vegas office.

The four sections within the division are engineering, appraisal, negotiation, and clearance (utilities and real estate), all of them augmented by clerical staff. Because of increased activity, the division faces a growing space problem, particularly a shortage of room for files.

There is close cooperation with the legal division since it is necessary that many of the papers prepared in connection with right-of-way work be reviewed and approved. Many condemnation matters are handled by the two divisions and this particular phase of the work will in all probability become more voluminous and time consuming.

The total of 321 separate acquisitions of properties were completed during the biennium amounting to 19,020 acres of land obtained for highway rights of way across private and public lands.

In the past two years, federal requirement for sampling of roadway material has expanded to the point where two men were and are being employed by the testing division solely to obtain these samples. This record sampling was given top priority. During the summer construction season the soils and aggregate section was divided into day and night crews to handle the incoming samples from the field. At the same time, the testing equipment was in use 16 hours per day, double that of the normal operation.

Several new employees were assigned to the asphalt section of testing to conduct extraction tests as part of the record sampling program. These tests obtained, from the field samples of asphalt used in paving operations, the percentage of asphalt used and the gradation of the gravel in the roadmix or plantmix material. Other new staff members were assigned to check on the stability of the mixtures, on the void factors, on density, thickness and other factors concerned with the quality of the paving material: all these tests were and are being made as part of the record sampling.

New equipment was installed in the asphalt laboratory to permit measurement of the kinematic viscosity of the asphalts. A new electric powered Dulin Rotarex Separator was acquired for extraction tests in the lab in addition to the hand-driven units assigned to individual contracts in the field.

For the first time a woman has been employed on a permanent basis in the soils and aggregate section to perform liquid limit tests on soils. This assignment frees a man previously engaged on this test for duty in other sections of the laboratory, thus improving the use of the available trained manpower.

In previous years one field crew of two men sampled subgrade material; now two crews are doing this work. The aggregate crew has been increased from two men to four, to provide more adequate coverage of the northern and southern sections of the state. A man has been employed as full-time delineator to sketch material deposits, figure amounts of material contained in the deposit, and assist in keeping written reports of list holes for inclusion in the description of the material site that is placed in the Special Provisions for each contract.

The increased work load, resulting in more tests being reported, necessitated the addition of a clerk-stenographer in the office section.

Other increases in personnel occurred in the chemical section of the structural materials and research laboratories. Plans are completed for the employment of a full-time soils engineer, and for the special training of a chemical assistant for testing cement treated material.

The Bureau of Public Roads record sampling program was carried on in addition to the regular duties of the testing division. These normal tasks involved acting as a coordinating agency for control and acceptance of materials used in construction, design and maintenance of highways. Briefly, these principal duties included:

1. To make materials surveys which cover investigations of subgrade and local aggregate sources;

2. To test and evaluate materials survey samples in order to establish a roadbed design adequate for the types of traffic and climate for each particular section;

3. To train and supervise the personnel in testing and inspecting the job site processed materials, such as subgrade, gravel base and surface, plantmix surface, concrete, etc.;

4. To inspect and test all prefabricated materials such as structural and reinforcing steel; vitrified clay, concrete, and corrugated metal pipe; portland cement; timber and timber preservative; paints and many others;

5. To investigate trouble spots, ascertaining the cause and making recommendations for correction;

6. To carry on research and special projects which may lead to improvement of test equipment and test methods and to better evaluation and use of new and old products;

This division continued to work closely with the design, bridge and right of way divisions of the Highway Department and with outside agencies, such as city and county, Indian Service, Bureau of Public Roads and consulting engineers, in an advisory and service capacity.

Supervision of construction is handled by the headquarters staff, under the direction of the Deputy Highway Engineer. Personnel include the construction engineer, assistant construction engineer, federal aid coordinator, asphalt paving engineer, two field engineers and eight field materials and testing technicians.

During the past biennium the construction division has found it necessary to increase the construction engineering field forces by approximately 77 percent. This personnel increase was motivated, primarily, by the accelerated Interstate Highway program. To maintain an adequate professional engineering staff, the Personnel Department launched a concerted recruitment drive to obtain experienced graduate engineers for state employment. The results to date have been most successful.

The headquarters office has as its primary function the coordination and supervision of construction field personnel and construction procedures. Secondary functions are the preparation of final reports, final estimates, and the verification of quantities and amounts contained in the monthly estimates. All construction revisions are reviewed and forwarded to the Bureau of Public Roads with valid substantiation to support the expenditure of federal funds.

In the past, the time interval between the production and the placing of base and surfacing materials presented no particular problems. However, with the advent of the "record sampling" program it has become mandatory that materials be sampled and the test results known prior to final placement. To control the quality of the materials and to comply with federal policies and procedures the construction division found it necessary to establish a materials and testing section. The section obtains and tests progress record samples of base and surface road materials as they are processed and put in place during construction of the highway. The section also is charged with the training and supervision of field laboratory personnel.

As the highway program continues to expand, the activity of the construction division will continue to increase. With this growth will come the need for more engineers and technicians. So it is anticipated the recruiting and training of qualified personnel will continue to be a problem.

ADMINISTRATION

Since its formation in 1960, the administrative division has been expanded to keep up with the growing demands of an expanding highway program. To the initial sections of personnel, public information, stores and purchasing, federal-aid programming, and files and mail, have been added the office engineer, accounting, and electronic data processing.

In addition the division is responsible for the presentation of public hearings, the preparation of charts and tables on the status of federal funds, the development of annual construction budgets, the preparation of monthly construction status reports and quarterly cost index, the review and approval of engineering authorizations, the assignment of vehicles for field survey crews, and the approval of all expense accounts, purchase orders and payment of bills for the purchase of office supplies and equipment.

During the biennium, the administrative engineer planned and moderated 13 public hearings. The hearing program included the preparation of mosaics, slides and exhibit material, the publication of legal notices, the notification of all interested county, city, state and federal officials, the recording and transcribing of hearing proceedings and the distribution of the transcriptions to all agencies concerned, and the preparation of the necessary resolutions for the approval of state, county, and city officials.

The administrative engineer also represents the Department in civil defense matters.

ACCOUNTING

Many significant changes have been inaugurated in the accounting section with resultant improvements in accounting procedures, reporting and historical records.

Most of these changes occurred in the process of preparation for the inception of Concurrent Audit in agreement with the U.S. Bureau of Public Roads.

To attain the desired Concurrent Audit status, the section integrated into existing working procedures such comprehensive and complicated programs as a double-entry bookkeeping system, general ledger accounting, and Accounting Procedure Manual for educational and documentary purposes, formalized bookkeeping machine posting for documentation, and an entirely revised format in reporting with wider utilization of the data processing section. This has been attained without increasing personnel in the section.

The attainment of Concurrent Audit status, which became effective on July 1, 1962, can be considered a milestone in the history of the State Highway Department. Nevada is one of five states in the nation accepted by the Bureau of Public Roads for this highly desired program.

With ever increasing expenditures and receipts of public monies, the responsibilities of the Department to the taxpayers of the state are requiring the most efficient use and handling of these funds with resultant reports. As a comparison of these increases, the Department expended almost thirty million dollars in the fiscal year ending June 30, 1962, and received almost thirty million dollars, as against expenditures of 19¼ million dollars and receipts of over 19½ million dollars for the fiscal year 1957. The Department now has budgeted, for the current fiscal year 1962-1963, thirty-three million dollars for the construction and maintenance of our highway system for the convenience and pleasure of the motoring public.

Of this thirty-three million dollars budgeted, the Department will spend 26 million of it for the planning, design and construction of Interstate, primary, secondary and urban roads. Another 5 3/4 million dollars will be spent for maintenance of existing and new roads, with 1¼ million ear-marked for the administration of the Department.

Coincident with the increasing population in the state, and the need for more and better roads, the Department can expect even larger sums to be accounted for in the future.

DATA PROCESSING

Since the last bi-annual report, in July of 1960, the data processing section has experienced a major revision in its method of operation and in its data processing equipment.

As of July 1960 this section used unit record tabulating machines and conventional techniques for processing data. A major portion of the work was in the area of cost control and accounting, with limited applications in the fields of engineering and statistics.

The needs of the Highway Department changed substantially in the past two years. An accelerated program of highway design and construction has emphasized the need for new concepts in data processing. It became evident that computing equipment, capable of handling large volumes of data in the solution of complex engineering problems, was required.

In March of 1962 an I.B.M. 1620 computer was installed. This computing unit, in the medium size range, was leased to handle the complex problems encountered in highway engineering and provide a more efficient method of processing accounting and statistical problems. Personnel were trained in the operation of the new computer and work assignments redefined. Special emphasis is now placed on the computer programming function, along with system analysis and design. Many new programs have been developed for the 1620 computer in the field of engineering, accounting, and statistics. New program development is continuing with the goal of eventually serving almost all divisions of the Highway Department.

In February of 1963, an important addition to the computer facility will be added, an I.B. M. 1401 Data Processing system. This system will replace many of the individual tabulating machines now in use. This new unit, in conjunction with the computer, will provide the overall speed and characteristics necessary to efficiently handle the complex data processing problems encountered in highway design and administration.

The future will bring a concerted effort on the development of advanced techniques and new systems to serve the various needs of the Highway Department.

STORES AND PURCHASING

An integral part of the highway operation is the stores and purchasing section. Under the direction of Jerry Quinlan, five employees were responsible for ordering, storing, disbursing and inventoring several hundred thousand dollars in supplies and equipment during the 1961-62 biennial period.

In addition, this section handled the multilith printing and machine addressing of hundreds of reports, notices and news releases in the last two fiscal years. Included are contract plans and specifications, bids notices, planning studies and reports, form letters, departmental memos, and the various divisional and sectional periodic reports.

At the same time, the distribution of all maps and Highways and Parks magazines is accomplished by this section. Personnel also receive, unpack and check all incoming supplies and equipment and pack for shipment all fourth-class mail and items to be transported by express and freight.

Stock disbursements increased nearly 80 percent over the previous biennium. In the 1961-62 period, $94,058 in stock was distributed compared to $55,167 during the 1959-60 biennial period.

Purchases, too, rose sharply since 1960. In the past two fiscal years, $195,093 was expended while during the 1959-60 period, $145,187 was spent, an increase of more than 30 percent. As in past years, headquarters' purchases accounted for nearly 15 percent of the total.

Working with the internal audit section of accounting, the equipment division, the district engineers and with radio communications, the stores and purchasing section is currently establishing a uniform system of inventory records and depreciation that will be used by the entire Highway Department. Before going into effect, the new program will be presented to the State Purchasing Director for final approval.

Now being planned is a system of coding to permit a perpetual inventory to be maintained on data processing cards. This procedure coupled with periodic physical checks made of supplies and equipment will provide the Department with an accurate and easily obtained balance record of material on hand and material disbursed.

EQUIPMENT

During the 1961-62 biennium the equipment division endeavored to reduce maintenance costs by purchasing diesel engines and by purchasing larger haulage equipment for the longer material hauls throughout the state.

The division's work load during the biennial period nearly doubled. With the addition of District Six, the equipment office was given the task of supervising the district's new shop. At the same time the sign shop at the Reno yards was placed under the direction of the equipment superintendent. Responsibility for the service, maintenance, and operation of the state motor pool which was initiated during the biennium was given this division. To centralize purchasing, the procurement of all material, supplies and equipment, excluding office furniture and supplies, was placed under the equipment division's stock supervisor.

Increases in budget and employees occurred during the biennium as a result of the expanded work load already mentioned. In the 1960 fiscal year, $1,911,173 was allotted and 102 people employed; in 1961, $1,870,251 was budgeted and 107 employed; and in the 1962 fiscal period $1,912,711 was provided and 110 were on the payroll.

One large rotary snowplow, called a Snowblast, was purchased in the fall of 1960 to assist in keeping highways open during the winter in the Lake Tahoe region.

Equipment division headquarters in Reno was moved to offices in the new District Two building in January 1962.

Architects were engaged to design the new equipment shops, radio shop, and sign department to be constructed in Sparks, directly across from the present facilities. The estimated $850,000 job is due to start early in 1963. An outside firm also was hired to plan construction of new equipment shops and highway motor pool facilities in Carson City with work slated to begin in late 1962 and be finished in the summer of 1963.

RETIREMENT

July 1, 1960 to June 30, 1962

Smith, Kathleen H.
Heidenreich, Andrew J.
Jacques, Nelson H.
Schulz, Joseph E.
Borgna, Victor E.
Hannig, Reed A.
Hann, William R.
Reid, Bonnie Ola
Walsh, Bert A.
Coleman, George P.
Norton, M. Edgar
Clevenger, Howard
Berning, Blanche
Coates, Rex N.
Hayman, Walter
Boden, Eldon J.
Ferguson, Martin
Parry, W. R.
Parmenter, Forrest L.
Hancock, John L.
Darrough, Raymond F.
Hersey, Dorothy L.
Aplin, Charles W.
Kiggins, Clayton S.
DePrati, Pete

20 TO 25 YEARS

Anderson, Ivan F.
Barrett, Ralph D.
Bawden, John E.
Biggs, Robert B.
Bradley, Delile
Bradley, Ralph W.
Chambers, L. G.
Christie, H. J.
Crampton, Philip H.
Cronin, Barry E.
Cutler, Royal H.
Donati, Guido
Gallagher, Thomas L.
Garrett, James L.
Gay, Donald V.
Gomes, Joseph V.
Grinnell, George
Inks, Virgil
Joseph, Owen W.
Kinnikin, Margaret
Kirn, Charles
Lorigan, Ray W.
Manchester, James
Marriage, Edward C.
Mathews, Woodrow G.
McCardle, John E.
McDonald, Margaret
Offen, Elmer B.
O'Sullivan, James
Pieretti, Eugene
Pratt, John W.
Primeaux, Patrick
Pringle, Marjorie
Rattazzi, Adele
Reed, Chester H.
Reichenback, Otto K.
Reil, Orvis E.
Rochon, Mary
Ross, Milton F.
Sanborn, Jack W.
Springer, Thorne E.
Springmeyer, Stanley
Stevens, Glen S.
Wise, Roy B.

15 TO 20 YEARS

Achard, Ruth D.
Adams, Bruce
Adams, Herbert
Baker, Matthew J.
Brown, Norman L.
Brown, William H.
Buchanan, Morris B.
Cazier, Albert J.
Chapman, Daniel P.
Clary, Arthur B.
Cocking, William J.
Colletti, Michael J.
Cook, James W.
Cooney, Jack
Dalbey, Jr., Allan K.
Crosby, Donald J.
Denton, Aubrey W.
Dillwith, Ned W.
Dunn, Lawrence J.
Duval, Richard B.
Dwyer, Thomas H.
Egoscue, Philipe
Egoscue, Prudencio
Flournoy, John D.
Gobeli, Fred
Greenhalgh, Harold J.
Gregg, Lawrence W.
Groesbeck, Burt J.
Harris, Scott O.
Hesse, Wallace E.
Hinrichs, Herbert H.
Horsley, Richard R.
Ingram, George S.
Jones, Joseph L.
Jones, William M.
Judnick, Jack
Kispert, Harold G.
Kleinman, L. H.
Koskela, Lillian
Kramer, Jesse J.
Laird, Albert T.
Lani, Benjamin
League, Robert W.
Marcuerquiaga, Martin
Marke, Roy D.
Marke, Willis E.
Mayer, Henry H.
McKnight, Stirling G.
McNeill, Lester
Mitchell, William E.
Monks, Morris J.
Morgan, J. H.
Muller, Ernest E.
Munson, Warren
Nauman, John B.

SERVICE RECORD

40 YEARS OR MORE

Armstrong, G. F.
Glock, J. A.

35 TO 40 YEARS

Cross, Ernest
Eldredge, Reuben E.
Perry, James A.
Rose, Dale V.
Schultz, Marion I.
Waite, Marvin H.
Wright, W. O.

30 TO 35 YEARS

Brown, Charles L.
Clyde, Victor W.
Gibson, W. H.
Harmer, Francis J.
Hays, D. H.
Kinne, A. G.
Little, L. W.
McMurtrey, E. A.
Morrison, F. H.
Robbins, Paul E.
Squires, Herbert A.
Sundeen, Stanley D.

25 TO 30 YEARS

Baxter, George M.
Boardman, E. T.
Bonafous, Joe
Brockway, G. B.
Carroll, Frank J.
Cochran, L. F.
Deck, Ted
Doty, Stanley P.
Dube, Paul J.
Fell, Verrill W.
Fodrin, Melvin J.
Gardner, Bill G.
Giraud, Jr., Joseph J.
Greenhalgh, Jack F.
Grier, George R.
Howard, A. A.
Johnson, Orrin H.
Koontz, Louis
Leavitt, Vincen E.
Manhire, John T.
McDermott, Tony H.
McInnis, J. R.
Meder, Zita D.
Metzger, Harry M.
Miles, Cyril D.
Odell, W. Alan
Ottini, Ralph J.
Parvin, Jack
Ream, Mary L.
Walker, Oren
Williams, Zeddie A.
Zilkey, Willard O.

15 TO 20 YEARS (cont'd.)

Newton, Bob
Noteware, Norman
Pattani, Jules
Perkins, Clyde K.
Phillipi, Walter R.
Prina, Victor J.
Quinlan, John J.
Reck, Jr., James N.
Reil, Willis
Reppert, Myrtle
Roberts, Raymond H.
Robertson, William G.
Robison, Wilford E.
Sharp, Robert
Sharp, Vernon P.
Shewan, William H.
Shirley, Jerome G.
Shoe, Genevieve
Skanovsky, Bruno
Smith, George A.
Spargo, William J.
Stockwell, Ernest R.
Stone, Albert A.
Sullivan, James H.
Totman, Beryl W.
Trussell, Raymond C.
Vega, Aldo M.
Veith, George L.
Wallace, Jr., James D.
Walsh, Arthur K.
Weidner, Josephine
Wilson, William A.
Woolverton, Gerald K.
Wright, Harold B.
Yates, Wayne A.
Young, Donald H.

TABLE 1

CONSTRUCTION AND RECONSTRUCTION COMPLETED AND UNDER CONTRACT ON THE DESIGNATED STATE HIGHWAY SYSTEM AT THE CLOSE OF THE BIENNIUM

Type	Miles new construction completed during biennium	Miles reconstruction completed during biennium	Miles new construction under contract at close of biennium	Miles reconstruction under contract at close of biennium	Totals
Grading	9.290 /1	---	---	---	9.290
Roadmix	17.494	6.970	52.991 /3	23.988	101.443
Plantmix	41.326	191.812 /2	63.820	67.720	364.678
TOTALS	68.110	198.782	116.811	91.708	475.411

/1 Includes 9.290 miles constructed with Forest Highway Funds by Bureau of Public Roads.

/2 Includes 12.290 miles constructed with Forest Highway Funds by Bureau of Public Roads.

/3 Includes 10.770 miles constructed with Indian Service Funds by the Indian Service.

TABLE 2

Table Showing Status of Mileage on the Various "State Interest" Highway Systems in Nevada as of December, 1961

COUNTY	Improved by State Highway Department: Federal-aid Primary System	Federal-aid Secondary System	Remaining State Highway System	Total	*State Interest Roads Not Improved by State	Grand Total All Types and All Systems
Churchill	149.6	128.0	-	277.6	4.9	282.5
Clark	258.1	219.8	18.2	496.1	221.2	717.3
Douglas	49.0	43.9	-	92.9	14.4	107.3
Elko	330.7	245.0	19.1	594.8	226.2	821.0
Esmeralda	115.3	106.0	15.8	237.1	19.9	257.0
Eureka	73.8	105.7	-	179.5	123.5	303.0
Humboldt	135.1	166.4	-	301.5	163.5	465.0
Lander	103.9	118.1	19.6	241.6	102.5	344.1
Lincoln	99.5	203.7	-	303.2	100.8	404.0
Lyon	62.1	166.3	4.0	232.4	84.0	316.4
Mineral	108.5	97.9	11.0	217.4	23.6	241.0
Nye	240.6	262.9	4.3	507.8	244.6	752.4
Ormsby	20.6	19.4	-	40.0	0.3	40.3
Pershing	75.0	76.9	-	151.9	171.1	323.0
Storey	0.2	12.1	-	12.3	23.0	35.3
Washoe	89.1	174.2	7.3	270.6	294.1	564.7
White Pine	265.2	149.3	-	414.5	126.2	540.7
Totals	2,176.3	2,295.6	99.3	4,571.2	1,943.8	6,515.0

TYPE	Mileage by Surface Types and Systems as of December 31, 1961					
A-B Primitive and Unimproved	-	-	-	-	311.7	311.7
C-D Graded and Drained and Soil-Surfaced	-	5.0	-	5.0	37.4	42.4
E Gravel or Crushed Stone	0.5	63.9	50.0	114.4	1,511.0	1,625.4
F Bituminous Surface Tr.	-	6.8	3.6	10.4	7.1	17.5
G Roadmix or Plantmix Surface	2,173.3	2,213.8	45.5	4,432.6	75.9	4,508.5
H-I High Type Bituminous	2.0	5.8	0.1	7.9	0.7	8.6
J Portland Cement Concrete	0.5	0.3	0.1	0.9	-	0.7
Totals	2,176.3	2,295.6	99.3	4,571.2	1,943.8	6,515.0

*State-interest roads are all routes on the State Designated System or Federal-aid Systems.

TABLE 3

COMPARISON OF AVERAGE DAILY TRAFFIC AT AUTOMATIC RECORDERS FOR 10 FISCAL-YEAR PERIODS

	Station	Daily Average 1952-1953	1953-1954	1954-1955	1955-1956	1956-1957	1957-1958	1958-1959	1959-1960	1960-1961	1961-1962
101	U.S. 40, east of Sparks	3,260	3,555	3,904	4,066	4,723	4,940	5,045	5,156	5,259	5,421
102-A	U.S. 91 and 466, south of Las Vegas	4,463	5,073	5,465	5,666	6,200	5,678	6,340	6,566	6,959	-----
102-B	Int. 15, south of PSC station south of Jean	-----	-----	-----	-----	-----	-----	-----	-----	-----	6,586
103	State Route 46, south of Elko	564	580	654	708	789	823	844	-----	-----	-----
103-A	State Route 46, two miles south of Elko	-----	-----	-----	-----	-----	-----	-----	346	361	354
104	U.S. 395, north of Carson City	2,396	2,674	2,964	3,143	3,283	3,584	3,929	4,206	4,433	4,743
106	State Route 59, south of Lovelock	393	394	299	269	303	303	321	300	284	305
107	U.S. 40, east of Elko	2,527	2,476	2,553	2,582	2,632	2,670	2,812	-----	-----	-----
107-A	U.S. 40, northeast of Elko	-----	-----	-----	-----	-----	-----	-----	2,188	2,496	2,583
108	U.S. 50 and 93, north of McGill	665	691	753	767	798	744	652	685	740	710
109	U.S. 6 and 93, south of East Ely	637	761	849	936	1,073	1,023	930	-----	-----	-----
109-A	U.S. 6, 50, and 93, south of Ely	-----	-----	-----	-----	-----	-----	-----	539	558	574
110	U.S. 93 and 95, southeast of Las Vegas	9,606	10,504	11,323	11,343	10,520	10,213	10,516	11,362	12,135	13,859
112	U.S. 6 and 95, west of Tonopah	712	750	830	881	912	916	969	1,093	1,057	1,162
114	U.S. 95, northwest of Las Vegas	1,304	1,124	1,602	1,455	1,907	1,743	1,787	1,682	1,846	3,476
115-A	U.S. 40, east of Wells	1,378	1,569	1,592	1,632	1,767	1,763	1,775	1,779	1,909	1,874
116	U.S. 40, west of Verdi	3,343	3,741	3,658	3,706	3,909	3,903	4,324	5,186	5,394	6,024
117	State Route 12, north of Logandale	541	537	562	572	580	618	610	648	682	643
118	U.S. 50, east of Spooners	1,476	1,648	1,911	2,076	2,338	2,495	3,110	3,439	3,287	3,465
119-A	State Route 3, south of Yerington	787	938	991	980	949	644	645	503	471	456
120	U.S. 91 and 93, north of Nellis Air Base	2,306	2,579	2,614	2,661	2,806	3,007	2,943	3,932	3,320	3,496
121	U.S. 40 and 95, northeast of Lovelock	1,859	2,051	2,104	2,183	2,119	2,228	2,284	2,462	2,575	2,701
122	U.S. 40, west of Battle Mountain	1,594	1,685	1,720	1,736	1,808	1,859	1,866	2,055	2,123	2,118
123	U.S. 50, one mile west of Peterson's Maintenance Station	-----	242	262	269	290	275	288	300	308	329
124	State Route 27, west of U.S. 395	-----	-----	-----	773	1,011	1,238	1,135	1,120	1,439	1,519

TABLE 4

MOTOR VEHICLE REGISTRATIONS
TO COUNTIES

County	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
Churchill	3,565.00	3,598.25	2,967.75	3,426.00	35,049.75	7,070.25	3,958.50	4,021.50	5,328.00	5,642.00	6,098.00	6,852.00
Clark	22,116.00	25,993.00	24,108.00	29,400.75	-	33,042.75	45,546.75	44,239.50	61,297.00	130,741.00	-	-
Douglas	1,678.00	1,765.25	1,440.75	1,692.75	-	3,041.25	1,802.25	1,998.75	3,022.00	3,595.00	4,062.00	4,443.00
Elko	5,790.00	5,780.75	4,746.00	4,983.75	-	9,072.75	5,226.75	5,298.00	7,332.00	7,587.00	7,937.00	8,528.00
Esmeralda	377.00	404.25	282.00	288.75	-	492.00	333.75	320.25	443.00	477.00	557.00	614.00
Eureka	452.00	540.50	462.75	454.50	-	945.00	556.50	598.50	693.00	660.00	646.00	714.00
Humboldt	2,610.00	2,502.75	2,008.50	2,246.25	-	4,208.25	2,692.50	2,820.00	3,563.00	3,691.00	4,010.00	4,524.00
Lander	885.00	836.75	699.00	724.50	-	1,337.25	860.25	907.50	1,209.00	1,158.00	1,113.00	1,215.00
Lincoln	1,631.00	1,748.25	1,396.50	1,618.50	-	2,646.00	1,563.75	1,587.00	1,995.00	1,773.00	1,892.00	1,625.00
Lyon	2,170.00	2,296.75	2,315.25	2,850.75	-	4,980.75	2,980.50	2,979.00	4,029.00	4,075.00	4,438.00	4,876.00
Mineral	2,386.00	2,491.50	2,846.25	3,150.00	-	5,517.75	3,063.75	3,127.50	4,002.00	4,007.00	4,016.00	4,160.00
Nye	1,499.00	1,743.00	1,833.75	2,013.00	-	4,019.25	1,986.00	2,532.75	3,943.00	3,735.00	3,835.00	4,155.00
Ormsby	2,014.00	2,061.00	1,620.00	1,757.25	-	3,916.50	2,313.00	2,474.25	3,679.00	4,181.00	4,983.00	5,992.00
Pershing	1,723.00	1,815.50	1,573.50	1,705.50	-	2,937.75	1,709.25	1,717.50	2,382.00	2,604.00	2,618.00	2,581.00
Storey	354.00	346.75	250.50	267.75	-	506.25	327.00	337.50	438.00	482.00	518.00	492.00
Washoe	26,648.00	27,356.25	21,432.75	23,589.75	-	46,298.25	29,853.00	31,647.75	44,728.00	94,905.00	-	-
White Pine	4,327.00	4,802.50	3,941.25	4,260.00	-	8,370.00	4,972.50	5,163.00	6,445.25	5,918.00	6,105.00	6,473.00
TOTAL	$ 80,225.00	$ 86,083.00	$ 73,924.50	$ 84,429.75	$ 35,049.75	$ 138,402.00	$ 109,746.00	$ 111,770.25	$ 154,528.25	$ 275,231.00	$ 52,828.00	$ 57,244.00

REVENUE FROM FUEL TAX
TO COUNTIES

County	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
Churchill	32,166.43	36,147.83	41,366.14	48,479.43	53,940.71	58,170.77	66,894.80	57,663.60	65,000.28	68,158.62	72,827.09	79,890.45
Clark	215,917.03	260,293.27	309,418.44	370,665.00	410,587.25	450,540.91	493,723.08	463,794.18	535,766.78	595,209.14	638,424.33	730,398.19
Douglas	18,147.10	17,222.50	20,958.44	23,579.49	24,461.12	24,777.04	30,084.92	25,217.84	29,447.39	30,226.74	31,011.36	35,236.05
Elko	108,468.09	121,263.53	139,237.15	153,734.49	156,780.73	162,203.31	183,548.89	159,028.25	177,763.03	189,032.44	195,770.01	203,962.26
Esmeralda	12,919.38	14,678.53	16,632.10	17,851.36	19,060.47	21,196.17	23,832.79	21,225.23	24,013.74	26,157.23	27,045.63	27,579.76
Eureka	13,693.72	16,680.73	19,952.91	19,005.44	21,356.44	22,974.69	25,163.51	22,311.86	24,367.61	27,318.10	27,567.21	30,402.23
Humboldt	55,157.67	59,471.34	68,696.05	76,837.33	80,425.44	86,735.28	97,452.25	84,486.65	96,482.18	107,611.92	111,472.32	114,386.77
Lander	27,074.72	29,827.82	34,056.51	36,057.73	37,940.89	41,256.48	45,263.04	39,907.77	44,210.76	46,552.45	49,945.81	52,262.69
Lincoln	33,450.06	36,453.82	43,551.58	46,538.02	48,668.37	50,962.01	57,602.75	48,697.64	54,270.61	57,267.38	59,671.72	66,013.91
Lyon	33,705.80	37,273.81	47,883.75	50,912.64	59,124.47	66,391.22	69,434.28	59,980.18	64,789.42	67,846.89	69,619.27	72,512.02
Mineral	25,341.35	32,219.94	38,348.46	41,273.28	35,742.64	36,104.78	47,655.76	41,791.24	44,981.08	46,366.37	47,803.72	48,299.09
Nye	51,395.72	59,305.04	63,617.54	64,844.60	90,430.36	88,352.14	98,173.46	83,515.72	99,473.46	104,196.03	110,868.43	125,459.08
Ormsby	20,084.03	22,605.28	26,943.93	32,052.86	34,639.74	34,646.48	41,166.78	38,016.20	47,257.74	54,864.52	58,537.60	63,658.22
Pershing	37,044.55	39,613.66	46,835.36	50,187.05	51,763.60	53,474.80	59,955.24	52,115.61	59,552.03	61,671.42	63,225.86	69,220.51
Storey	4,539.03	4,681.14	5,894.61	6,059.62	6,641.97	7,324.66	8,127.39	7,410.30	9,401.18	8,949.59	11,156.54	9,862.14
Washoe	206,968.51	218,509.88	249,138.76	280,857.47	299,986.65	321,653.27	368,734.54	324,980.02	381,148.37	410,935.39	440,313.54	485,920.94
White Pine	60,990.95	67,895.72	78,190.67	89,937.16	97,724.24	100,801.88	115,331.83	98,047.84	105,458.01	109,323.93	113,690.07	122,089.41
TOTALS	957,064.14	1,074,143.84	1,250,722.40	1,408,872.97	1,529,275.09	1,627,565.89	1,832,145.31	1,628,190.13	1,863,383.72	2,011,688.16	2,128,950.51	2,337,153.72

TABLE 5

NUMBER OF BRIDGES AND GRADE SEPARATION STRUCTURES

SUMMARY BY COUNTIES AS OF JUNE 30, 1962

COUNTY	BRIDGES OVER WATERWAYS	RAILROAD GRADE SEPARATION STRUCTURES	INTERCHANGE STRUCTURES	HIGHWAY GRADE SEPARATION STRUCTURES	TOTAL
CHURCHILL	35	0	4	2	41
CLARK	75	13	22	9	119
DOUGLAS	20	0	0	0	20
ELKO	33	8	8	2	51
ESMERALDA	2	0	0	0	2
EUREKA	11	2	0	0	13
HUMBOLDT	11	3	7	2	23
LANDER	8	0	0	0	8
LINCOLN	11	2	0	0	13
LYON	17	2	0	0	19
MINERAL	4	0	0	0	4
NYE	11	0	0	0	11
ORMSBY	0	0	0	0	0
PERSHING	5	1	6	2	14
STORY	0	1	0	0	1
WASHOE	29	6	11	2	48
WHITE PINE	3	4	0	0	7
TOTAL	275	42	58	19	394

TABLE 6

BRIDGE AND GRADE SEPARATION SUMMARY

NUMBER OF STRUCTURES BUILT BY STATE HIGHWAY DEPARTMENT

SUMMARY BY TYPE	CONSTRUCTED OR UNDER CONSTRUCTION AS OF JUNE 30, 1960	CONSTRUCTED DURING BIENNIUM OR UNDER CONSTRUCTION June 30, 1962	STRUCTURES ABANDONED DURING BIENNIUM	TOTAL AS OF JUNE 30, 1962	STRUCTURES ON HIGHWAY SYSTEM NOT BUILT BY STATE HIGHWAY DEPARTMENT	TOTAL STRUCTURES AS OF JUNE 30, 1962
Plain Concrete	4	0	0	4	1	5
Reinforced Concrete	215	76	4	287	1	288
Structural Steel	28	5	0	33	10	43
Timber	27	0	0	27	3	30
Composite Structures (Reinforced Concrete and Structural Steel)	11	0	0	11	0	11
Prestressed Concrete	5	10	0	15	0	15
Structural Plate Pipe	0	2	0	2	0	2
TOTAL	290	93	4	379	15	394
Total Length of Structures in Feet	24,851.	10,149.	129	34,871	1,589	36,460
Average Length of Bridge in Feet	86	109	32	92	106	93
SUMMARY BY PURPOSE						
Bridges over Waterways	227	41	4	264	11	275
Railroad Grade Separations	33	5	0	38	4	42
Interchange Structures	20	38	0	58	0	58
Highway Grade Separations	10	9	0	19	0	19
TOTAL	290	93	4	379	15	394

STATE OF NEVADA
DEPARTMENT OF HIGHWAYS

PRICE INDEX CONSTRUCTION COST

1955=100

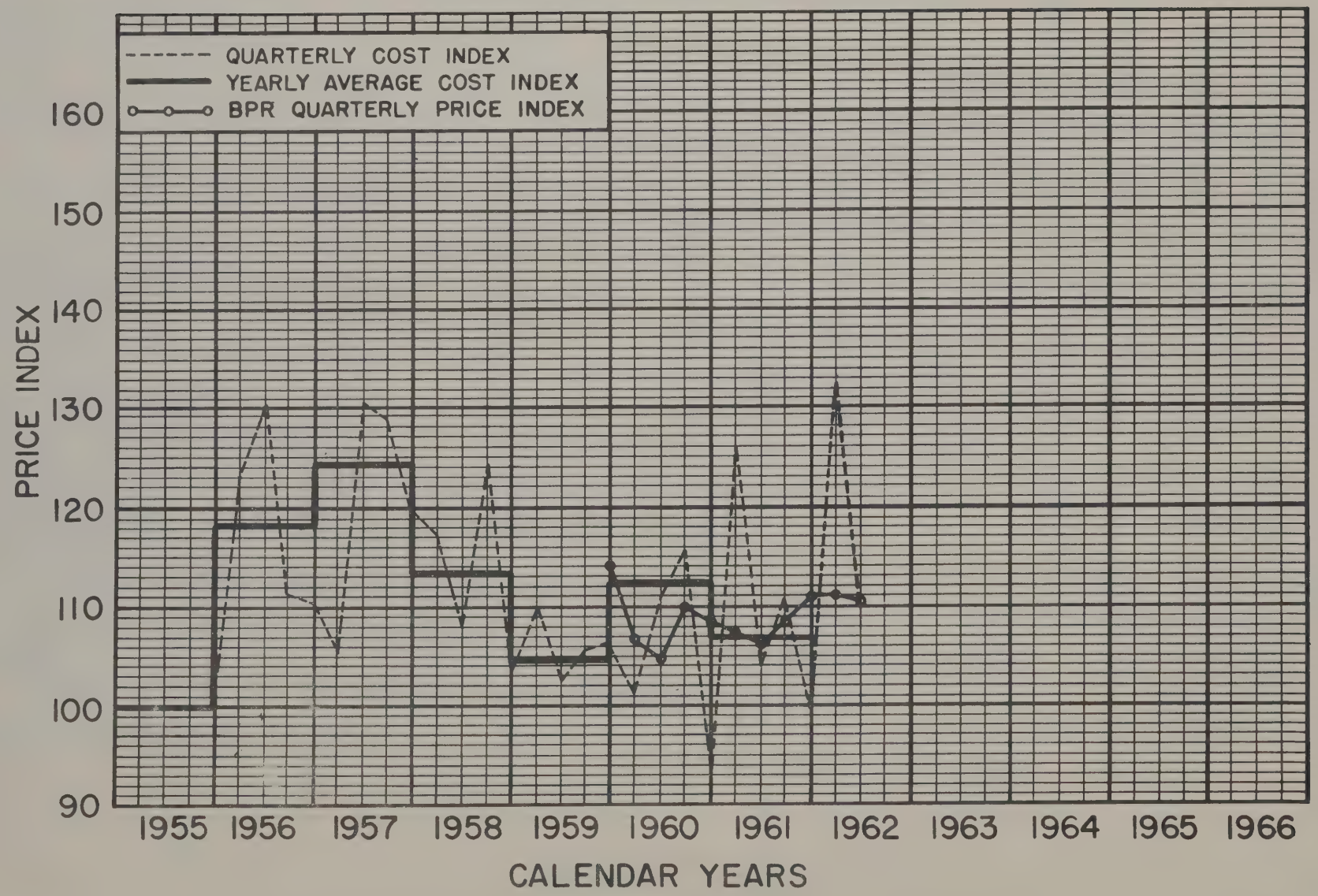


TABLE 7

AVERAGE CONTRACT PRICES

Year	Road Excav.	Borrow	Type I Gravel	Type 2 Gravel	Liquid Asphalts	Plantmix Surface	Class A & Class AA Concrete	Reinf. Steel	24" CMP	Composite Index
	Cu. Yd.	Cu. Yd.	Ton	Ton	Ton	Ton	Cu. Yd.	Pound	L. Ft.	
1955 Average	.388	.219	.660	.869	31.97	2.64	61.17	.120	5.55	100.0
1956 Average	.506	.300	.845	.893	39.86	2.48	78.98	.144	6.08	118.2
1957 Average	.562	.291	.751	.920	39.63	2.96	71.63	.147	6.72	124.3
1958 Average	.535	.241	.683	.813	35.86	2.49	71.37	.142	6.73	113.3
1959 1st Qtr.	.511	.260	.690	.990	31.84	2.33	66.19	.125	6.50	110.0
2nd Qtr.	.299	.288	.709	.923	38.29	2.72	72.41	.144	6.64	102.4
3rd Qtr.	.421	.180	.714	.884	35.94	2.51	65.04	.142	6.48	105.7
4th Qtr.	.436	.180	.704	.805	36.83	2.51	65.04	.142	7.00	106.2
1959 Average	.397	.234	.704	.925	35.18	2.53	66.86	.129	6.61	104.6
1960 1st Qtr.	*1.11	.180	.608	.712	35.50	2.53	81.85	.151	6.50	101.2
2nd Qtr.	.537	.180	.697	.893	33.80	2.35	62.30	.132	6.55	111.0
3rd Qtr.	.450	.246	1.089	1.139	31.54	2.83	70.50	.126	6.82	115.6
4th Qtr.	.327	.250	.711	.751	34.11	2.15	62.72	.120	7.24	93.5
1960 Average	.541	.249	.737	.863	33.52	2.41	65.71	.127	6.67	112.4
1961 1st Qtr.	.664	.480	.776	.864	34.12	2.55	67.25	.143	7.41	125.9
2nd Qtr.	.438	.340	.776	.861	30.27	2.52	60.51	.109	6.64	103.9
3rd Qtr.	.399	.374	.945	1.034	36.24	2.40	71.08	.120	7.00	110.7
4th Qtr.	.349	.288	.773	.827	33.61	2.62	62.07	.119	6.54	99.9
1961 Average	.437	.350	.797	.884	32.98	2.53	62.61	.114	6.81	106.9
1962 1st Qtr.	.703	.300	.880	1.037	32.80	2.97	70.96	.122	6.03	132.3
2nd Qtr.	.333	.350	.912	1.164	33.13	2.99	62.43	.111	6.50	108.2

* Not used for computing Index

TABLE 8

CONTRACTS and LETTINGS

1 July 1960 thru 30 June 1962

42 Contracts and 34 Bid Openings.

10 Interstate

13 Primary

9 Secondary

1 Urban

7 State

1 R - AD

1 W - A - AA

23 Bids submitted on 42 Contracts.
Average of 5 bidders per Contract.

TABULATION INDICATING NUMBER OF CONTRACTORS PREQUALIFIED BY THE DEPARTMENT AT THE CLOSE OF THE BIENNIUM

RATING	Number of Contractors
$ 5,000,000 & over	37
2,500,000 - 5,000,000	12
1,500,000 - 2,500,000	12
1,000,000 - 1,500,000	8
500,000 - 1,000,000	10
250,000 - 500,000	8
100,000 - 250,000	2
	89

July 11, 1960 there were 104 prequalified contractors.

May 31, 1962 there were 89 prequalified contractors.

TABLE 9

TRANSPORTATION PERMITS

7/1/60---------6/30/62

	Total Units Moved
Heavy and Highway	1,409
Farm Equipment	245
House Trailers	11,142
Buildings	907
Military	445
Miscellaneous	527
GRAND TOTAL	14,675

In addition to the above, 22 continuous overload permits were issued for mine to mill, or production source to processing point movement.

TRANSPORTATION PERMITS

TOTAL PERMITS ISSUED

7/1/60 thru 12/31/60	4,014
1/1/61 thru 12/31/61	6,158
1/1/62 thru 6/30/62	3,539
GRAND TOTAL	13,711

TABLE 10

ENCROACHMENT PERMITS

7/1/60-------6/30/62

	No. Units Issued
Telephone & Telegraph Lines	89
Power Lines	27
Service Pipe	
Gas Lines	39
Water Lines	57
Sewer Lines	36
Culverts	33
Approach Roads and Driveways	60
Miscellaneous	14
GRAND TOTAL	344

TABLE 11

JOB AUTHORIZATION DATA - 7/1/60 - 6/30/62

District or Division	Number of authorizations this biennium	Amount authorized this biemmium	Amount Authorized previously expended this biennium	Amount expended and authorized this biemmium	Total Expenditures	Balance Incomp.
One	13	69,369.35	22,859.25	68,693.73	91,552.98	675.62
Two	44	355,590.00	57,383.85	224,107.49	281,491.34	131,482.51
Three	25	247,910.00	79,828.73	174,856.01	254,684.74	73,053.99
Four	19	276,638.00	17,195.85	190,523.11	207,718.96	86,114.89
Five	15	230,997.00	41,038.43	152,231.04	193,269.47	78,765.96
Six	18	119,950.00	1,224.42	91,410.06	92,634.48	28,539.94
Seven	2	9,500.00	-0-	-0-	-0-	9,500.00
Eight	3	4,800.00	-0-	2,852.85	2,852.85	1,947.15
Nine	7	4,420.00	809.57	12,142.54	12,952.11	7,722.54 CR
TOTALS	146	1,319,174.35	220,340.10	916,816.83	1,137,156.93	402,357.52

Note: report cover # 10601 - 10747, Inclusive

STATE OF NEVADA - DEPARTMENT OF HIGHWAYS

TABLE 12

STATEMENT OF RECEIPTS & DISBURSEMENTS 1961 - 1962

CONTROLLERS RECONCILIATION

ITEMS	1961	1962	TOTAL 1961-62	PERCENT
Revenues:				
Federal Aid	$ 12,251,238.00	$ 15,663,984.00	$ 27,915,222.00	50.31 %
Gasoline, Use Fuel Tax (Gross)	7,790,994.61	9,206,376.93	16,997,371.54	30.64 %
Auto License Fees	1,890,655.62	1,937,998.18	3,828,653.80	6.90 %
Common Carrier Licenses, Fees	2,974,766.78	2,710,652.52	5,685,419.30	10.25 %
Drivers Licenses	218,856.88	218,732.40	437,589.28	.79 %
Participation by Others	8,658.51	4,984.45	13,642.96	.02 %
Accounts Receivable	343,672.09	258,931.49	602,603.58	1.09 %
Revenues (Gross)	25,478,842.49	30,001,659.97	55,480,502.46	100.00 %
Refunds & Collection Costs:				
Gasoline, Use Fuel Tax Refunds	236,038.30	250,478.11	486,516.41	12.71 %
Gasoline, Tax Administration	14,555.46	29,665.67	44,221.13	1.14 %
Common Carrier Refunds	46,946.58	9,942.33	56,888.91	1.49 %
Public Service Commission	20,000.00	36,268.20	56,268.20	1.47 %
Department of Motor Vehicles	62,659.30	147,020.81	209,680.11	5.48 %
Motor Vehicle Division	255,386.92	232,948.61	488,335.53	12.75 %
Motor Carrier Division	117,290.26	89,967.88	207,258.14	5.41 %
Highway Patrol Division	627,516.07	687,191.03	1,314,707.10	34.34 %
Drivers License Division	193,755.24	226,496.51	420,251.75	10.98 %
Fiscal & Accounting Division	125,270.16	138,524.12	263,794.28	6.89 %
Automation Division	111,370.21	169,526.54	280,896.75	7.34 %
Refunds & Revenue Subventions	1,810,788.50	2,018,029.81	3,828,818.31	100.00 %
Gross Revenues Less Refunds & Subventions				-6.90
Receipts (Net Useable)	$ 23,668,053.99	$ 27,983,630.16	$ 51,651,684.15	93.10 %
Disbursements:				
Construction	12,683,288.04	17,324,662.94	30,007,950.98	62.31 %
Surveys, Plans, R/W	2,477,351.46	3,203,997.87	5,681,349.33	11.79 %
Maintenance	3,920,536.09	4,611,983.41	8,532,519.50	17.72 %
Buildings	403,593.25	389,924.55	793,517.80	1.65 %
Equipment & Plants	21,443.84 CR	124,034.57 CR	145,478.41 CR	- .30 %
Administration	707,584.95	747,575.71	1,455,160.66	3.02 %
Research & Investigation Planning	476,134.93	508,255.68	984,390.61	2.04 %
Public Relations	36,999.36	51,546.13	88,545.49	.18 %
Highways & Parks Magazine	40,643.52	41,504.90	82,148.42	.17 %
State Road Maps	6,166.65	30,942.37	37,109.02	.08 %
Annual (July) Traffic Studies	27,745.09	29,520.39	57,265.48	.12 %
Accounts Receivable	307,114.45	280,478.56	587,593.01	1.22 %
Disbursements	$ 21,065,713.95	$ 27,096,357.94	$ 48,162,071.89	100.00 %
Reconciliation with State Controller:				
Highway Balance, July 1, 1960		2,837,424.81		
Plus: Receipts - Gross	55,480,502.46			
Refunds & Collection Costs	- 3,828,818.31			
Net Useable Receipts		51,651,684.15		
Sub Total		$ 54,489,108.96		
Less: Highway Department Disbursements	48,162,071.89			
Transfer of funds to Headquarters Building Fund	754,000.00			
Transfer to Revolving Fund	150,000.00			
Total Disbursements & Transfers		- 49,066,071.89		
Highway Balance, June 30, 1962		5,423,037.07		
Plus: June 1962 Lists (included in Disbursements) paid in July 1962 by State Controller		347,414.39		
State Controller's Balance, June 30, 1962		$ 5,770,451.46		

TABLE 13

COMPARATIVE BALANCE SHEETS

FISCAL YEARS 1961 THRU 1962

	June 30, 1962	June 30, 1962
Assets:		
Cash		
State Controller	5,439,764.85	5,423,037.07
Cash in Banks	250,000.00	400,000.00
Headquarters Building Fund	---	754,000.00
	5,689,764.85	6,577,037.07
Receivables		
Reimbursement Receivable, Fed. Gov't	1,309,381.00	1,196,832.00
Accounts Receivable - General	48,312.90	65,522.36
	1,357,693.90	1,262,354.36
Stores Inventory		
District 1	112,172.17	39,604.12
District 2	73,593.34	48,924.07
District 3	111,499.80	100,569.10
District 4	37,981.43	93,663.17
District 5	35,718.12	79,270.62
District 6	90,929.02	106,313.88
Division 7	129,275.01	78,062.01
Division 8	-0-	-0-
Division 9	34,300.65	25,335.67
	625,469.54	571,742.64
Land	540,197.38	559,734.19
Building & Non Highway Improvements	4,552,352.85	4,860,449.00
Less: Allowance for Depreciation	1,077,558.68	900,809.34
	3,474,794.17	3,959,639.66
Equipment-Mobile	6,329,100.76	6,413,953.50
Less: Allowance for Depreciation	4,249,868.24	4,721,317.51
	2,079,232.52	1,692,635.99
Furniture & Fixtures	1,077,939.87	1,189,736.39
Estimated Receipts	27,294,957.00	30,260,000.00
Less Revenue to June 30	23,615,607.13	27,884,611.18
	3,679,349.87	2,375,388.82
Through Traffic Roads	218,773,314.92	240,146,907.92
TOTAL ASSETS	237,297,757.02	258,335,177.04

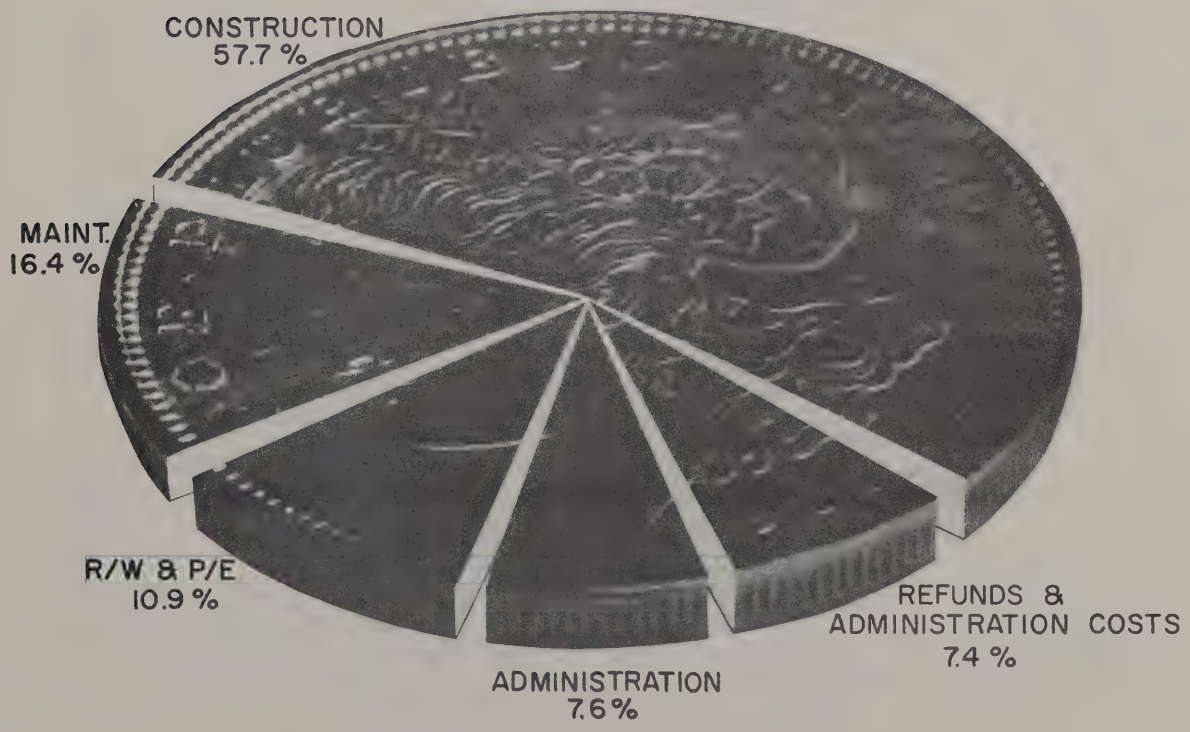
COMPARATIVE BALANCE SHEET

	June 30, 1962	June 30, 1962
Liabilities & Reserves:		
Reserve for Investment (Inventory & other assets)	7,797,633.48	7,973,488.87
Fund Balance - Highway Investment	218,773,314.92	240,146,907.92
	226,570,948.40	248,120,396.79
Appropriations & Surplus:		
Allotments	28,381,483.00	30,250,000.00
Less: Expenditures to June 30	21,065,713.95	27,096,357.94
	7,315,769.05	3,153,642.06
Unappropriated Surplus	3,411,039.57	7,061,138.19
	10,726,808.62	10,214,780.25
TOTAL LIABILITIES, RESERVES, APPROPRIATIONS & SURPLUS	237,297,757.02	258,335,177.04

Receipts and Disbursements
(BIENNIUM)

RECEIPTS

DISBURSEMENTS



HIGHWAY FUND BALANCE
1960—1962

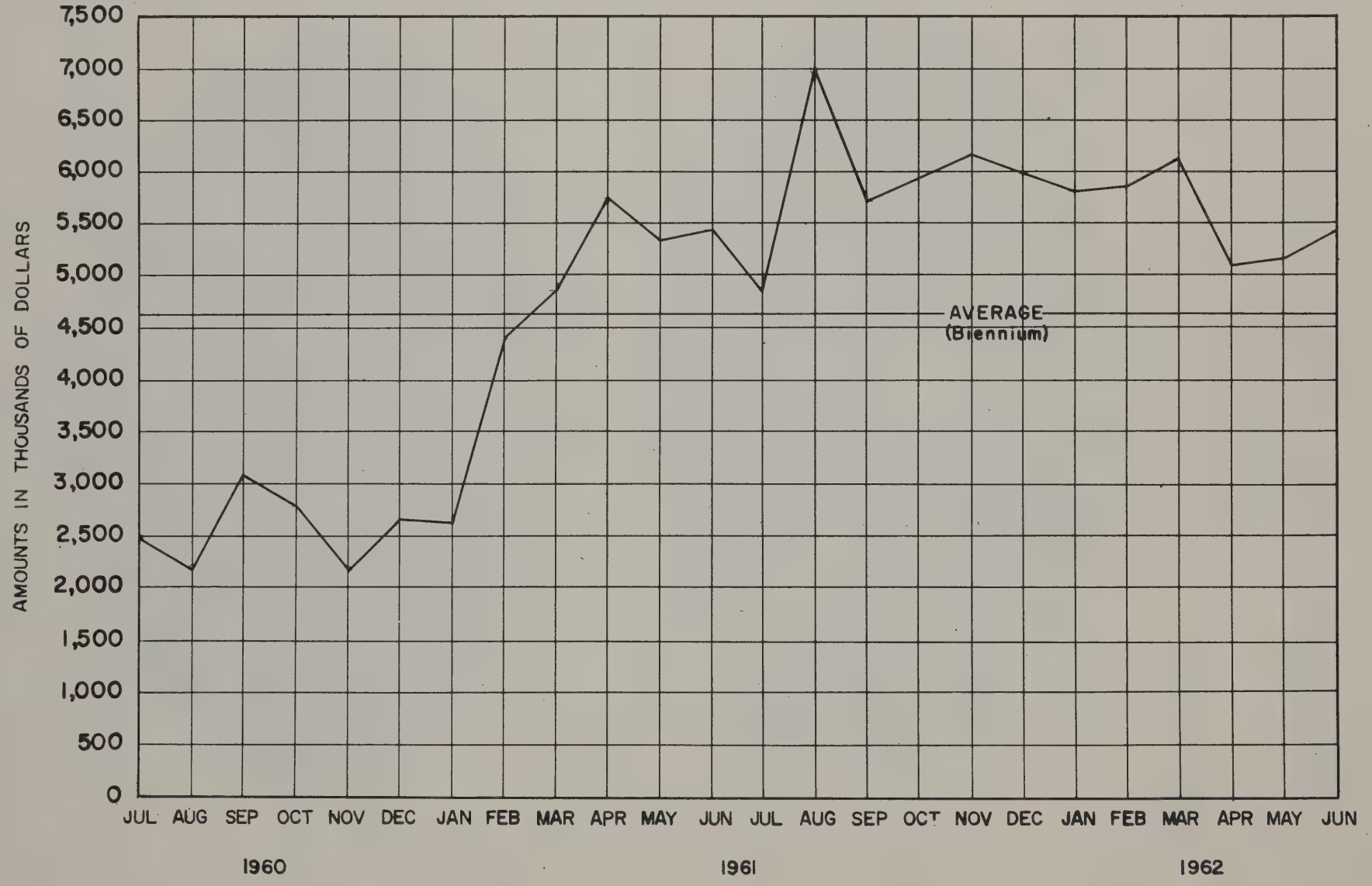


TABLE 14

STATUS OF STATE HIGHWAY FUND

PERIOD ENDING	VOUCHERED AMOUNTS NOT PAID	HIGHWAY FUND BALANCE	TOTAL ESTIMATED H.F. BALANCE	CONTROLLER'S BALANCE
1960				
July 31	$ 819,974.00	$ 2,486,213.20	$ 3,306,187.20	$ 2,731,967.32
August 31	1,210,083.00	2,178,652.30	3,388,735.30	2,222,343.96
September 30	1,373,291.00	3,079,171.81	4,452,462.81	3,087,321.74
October 31	1,655,748.00	2,791,876.45	4,447,624.45	2,914,487.39
November 30	2,060,118.00	2,174,424.95	4,234,542.95	2,317,812.33
December 31	1,279,434.00	2,660,472.32	3,939,906.32	3,128,414.79
1961				
January 31	1,055,211.00	2,635,225.26	3,690,436.26	2,703,635.79
February 28	728,853.00	4,396,789.95	5,125,642.95	4,558,815.74
March 31	547,852.00	4,806,599.39	5,354,451.39	4,900,459.35
April 30	635,176.00	5,750,657.64	6,385,833.64	5,762,221.76
May 31	915,839.00	5,336,159.80	6,251,998.80	5,688,792.82
June 30	1,309,381.00	5,439,764.85	6,749,145.85	5,703,438.24
July 31	869,542.00	4,833,912.49	5,703,454.49	5,310,267.06
August 31	606,193.00	7,004,566.70	7,610,759.70	7,472,524.45
September 30	776,043.00	5,719,614.53	6,495,657.53	6,271,063.45
October 31	388,855.00	4,299,178.37	4,688,033.37	4,834,618.36
November 30	416,078.00	6,172,138.71	6,588,216.71	6,620,464.98
December 31	331,193.00	5,993,595.87	6,324,788.87	6,483,727.69
1962				
January 31	483,616.00	5,891,230.34	6,374,846.34	6,095,340.85
February 28	1,440,336.00	5,859,996.23	7,300,332.23	6,131,645.53
March 31	895,627.00	6,125,829.34	7,021,456.34	6,563,669.63
April 30	582,490.00	5,087,235.12	5,669,725.12	5,520,962.74
May 31	1,091,228.00	5,148,527.65	6,239,755.65	5,527,216.70
June 30	1,196,832.00	5,423,037.07	6,619,869.07	5,770,451.46
Average (Biennium)		$ 4,637,286.00	$ 5,581,828.00	$ 4,930,069.00

TABLE 15

ACTIVITY OF STATE HIGHWAY FUND

PERIOD ENDING	RECEIPTS (GROSS)	DISBURSEMENTS & TRANSFERS	HIGHWAY FUND BALANCE
1960			
July 31	$ 1,852,036.90	$ 2,203,708.07	$ 2,486,213.20
August 31	1,849,045.94	2,156,606.84	2,178,652.30
September 30	2,803,530.79	1,903,011.28	3,079,171.81
October 31	1,897,868.24	2,184,704.04	2,791,876.45
November 30	1,628,123.24	2,245,574.74	2,174,424.95
December 31	2,306,758.98	1,820,711.61	2,660,472.32
1961			
January 31	1,768,408.97	1,793,656.03	2,635,225.26
February 28	3,250,716.60	1,489,151.91	4,396,789.95
March 31	1,747,273.14	1,337,463.70	4,806,599.39
April 30	2,323,861.35	1,379,803.10	5,750,657.64
May 31	2,057,504.79	2,472,002.63	5,336,159.80
June 30	1,993,713.55	1,890,108.50	5,439,764.85
July 31	1,620,662.91	2,226,515.27	4,833,912.49
August 31	5,118,126.92	2,947,472.71	7,004,566.70
September 30	2,064,157.48	3,349,109.65	5,719,614.53
October 31	1,417,250.91	2,837,687.07	4,299,178.37
November 30	3,978,283.95	2,105,323.61	6,172,138.71
December 31	1,813,949.19	1,992,492.03	5,993,595.87
1962			
January 31	1,992,292.21	2,094,657.74	5,891,230.34
February 28	1,979,352.32	2,010,586.43	5,859,996.23
March 31	2,155,442.75	1,889,609.64	6,125,829.34
April 30	2,352,091.66	3,390,685.88	5,087,235.12
May 31	2,391,803.83	2,330,511.30	5,148,527.65
June 30	3,118,245.84	2,843,736.42	5,423,037.07
Average (Biennium)	$ 2,311,687.00	$ 2,203,954.00	$ 4,637,286.00

Note: Disbursements includes Refunds & Revenue Subventions

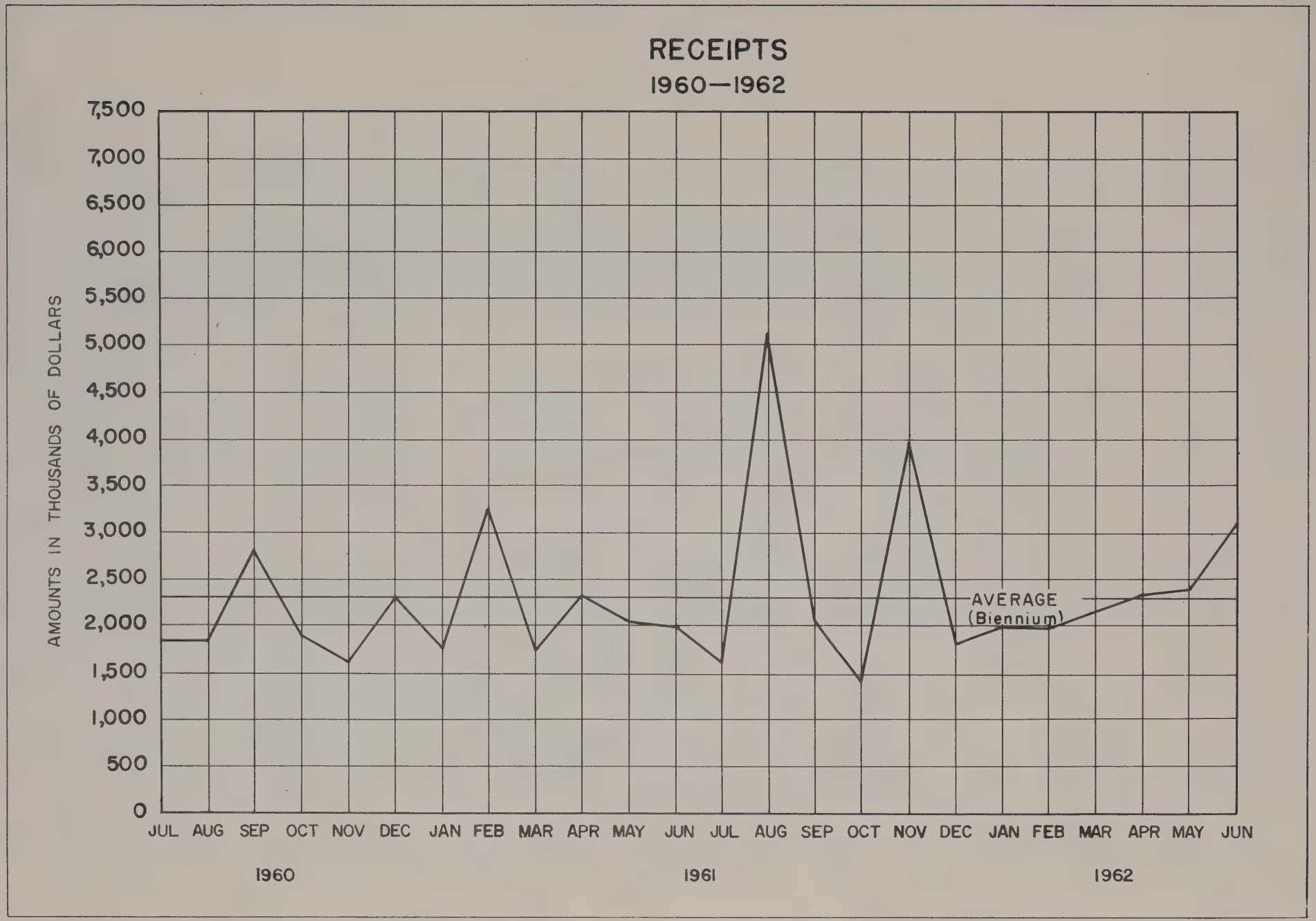

RECEIPTS
1960—1962
AMOUNTS IN THOUSANDS OF DOLLARS
7,500
7,000
6,500
6,000
5,500
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
AVERAGE
(Biennium)
JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN
1960
1961
1962

TABLE 16

NEVADA'S SHARE OF FEDERAL AID ALLOTMENTS

1917 - 1963

1917 - 1958

Primary	$ 67,454,394.63
Secondary	27,866,417.00
Urban	1,129,380.00
Interstate	32,403,510.00
Public Lands	4,999,207.32
Other Federal Funds utilized	17,697,884.69
Sub Total 1917 - 1958	151,550,793.64
1959 Primary	4,909,104.00
1959 Secondary	3,281,450.00
1959 Urban	166,734.00
1959 Interstate	20,744,054.00
1959 Interstate	2,084,830.00
1959 D-Fund	3,839,673.00
1960 Primary	5,061,574.00
1960 Secondary	3,383,408.00
1960 Urban	171,498.00
1960 Interstate	13,009,625.00
1961 Primary	4,519,154.00
1961 Secondary	3,096,583.00
1961 Urban	175,376.00
1961 Interstate	9,319,860.00
1962 Primary	4,531,406.00
1962 Secondary	3,077,007.00
1962 Urban	343,548.00
1962 Interstate	11,326,219.00
1963 Primary	4,751,126.00
1963 Secondary	3,153,796.00
1963 Urban	343,641.00
1963 Interstate	11,895,593.00
Sub Total 1959 - 1963	113,185,259.00
GRAND TOTAL 1917 - 1963	$ 264,736,052.64

TABLE 17

FEDERAL FUNDS RECEIVED

BY SYSTEM TYPE AND CLASS OF FUNDS

Description	1958	1959	1960	1961	1962	Total Five Years
Interstate System Funds						
Right of Way	$ -0-	$ 17,274.00	$ 102,914.00	$ 158,629.00	$ 13,277.00	$ 292,094.00
Preliminary Engineering	-0-	681,862.00	607,283.00	337,084.00	653,705.00	2,279,934.00
Construction	3,580,778.94	5,677,551.00	2,532,244.58	3,830,443.00	8,216,922.00	23,837,939.52
Construction Engineering	36,450.72	74,975.00	223,390.00	314,958.00	203,667.00	853,440.72
TOTAL INTERSTATE FUNDS	$ 3,617,229.66	$ 6,451,662.00	$ 3,465,831.58	$ 4,641,114.00	$ 9,087,571.00	$ 27,263,408.24
Primary System Funds						
Right of Way	$ 356,740.00	$ 30,733.00	$ 192,296.00	$ 73,291.00	$ 240,156.00	$ 893,216.00
Preliminary Engineering	-0-	40,289.00	107,535.00	90,842.00	76,898.00	315,564.00
Construction	5,155,888.78	4,581,187.55	4,148,182.16	4,889,134.00	4,266,403.00	23,040,795.49
Construction Engineering	328,825.90	372,217.00	248,097.84	224,625.00	235,335.00	1,409,100.74
TOTAL PRIMARY FUNDS	$ 5,841,454.68	$ 5,024,426.55	$ 4,696,111.00	$ 5,277,892.00	$ 4,818,792.00	$ 25,658,676.23
Secondary System Funds						
Right of Way	$ -0-	$ 8,247.00	$ 70,417.00	$ 84,125.00	$ 47,691.00	$ 210,480.00
Preliminary Engineering	-0-	37,918.00	149,247.00	73,345.00	9,261.00	269,771.00
Construction	4,626,988.29	2,934,071.00	2,365,767.75	1,148,201.00	1,267,952.00	12,342,980.04
Construction Engineering	151,086.58	379,275.00	322,014.25	277,883.00	13,923.00	1,144,181.83
TOTAL SECONDARY FUNDS	$ 4,778,074.87	$ 3,359,511.00	$ 2,907,446.00	$ 1,583,554.00	$ 1,338,827.00	$ 13,967,412.87
Urban System Funds						
Right of Way	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-
Preliminary Engineering	-0-	-0-	-0-	-0-	15,705.00	15,705.00
Construction	-0-	26,438.00	-0-	249,457.00	26,315.00	302,210.00
Construction Engineering	-0-	-0-	-0-	14,050.00	-0-	14,050.00
TOTAL URBAN FUNDS	$ -0-	$ 26,438.00	$ -0-	$ 263,507.00	$ 42,020.00	$ 331,965.00
Highway Planning (1½%) Funds	$ 293,080.72	$ 318,858.00	$ 247,917.00	$ 485,171.00	$ 376,774.00	$ 1,721,800.72
GRAND TOTALS	$14,529,829.93	$15,180,895.55	$11,317,305.58	$12,251,238.00	$15,663,984.00	$ 68,943,263.06

TABLE 18

ANTICIPATED REVENUES AVAILABLE TO THE HIGHWAY DEPARTMENT FOR THE
1964-1965 BIENNIUM WITH COMPARISONS TO THE 1962-1963 BIENNIUM

	1962 Actual	1963 Work Program	Biennium Totals	1964 Agency Request	1965 Agency Request	Anticipated Biennium Totals
REVENUES:						
Federal Participation						
Interstate System	9,087,571.00	10,449,650.00	19,537,221.00	15,500,000.00	11,500,000.00	27,000,000.00
Primary System	4,860,812.00	6,000,000.00	10,860,812.00	6,525,000.00	7,200,000.00	13,725,000.00
Secondary System	1,338,827.00	2,400,000.00	3,738,827.00	2,750,000.00	2,900,000.00	5,650,000.00
Other - Planning	376,774.00	400,000.00	776,774.00	450,000.00	400,000.00	850,000.00
Sub-Total Federal Participation	15,663,984.00	19,249,650.00	34,913,634.00	25,225,000.00	22,000,000.00	47,225,000.00
Gross Highway User Revenues						
Motor Fuel Taxes	9,206,376.93	10,029,451.00	19,235,827.93			
Common Carrier	1,937,998.18	2,000,000.00	3,937,998.18			
Auto R gistrations	2,710,652.52	2,900,000.00	5,610,652.52			
Driver's License	218,732.40	225,000.00	443,732.40			
Sub-Total	14,073,760.03	15,154,451.00	29,228,211.03			
Less: Refunds & Collection Costs:						
Refunds	260,420.44	275,000.00	535,420.44			
Public Service Commission	36,268.20	25,000.00	61,268.20			
Tax Commission (Gas Tax Act)	29,665.67	31,448.00	61,113.67			
Department of Motor Vehicle	1,691,675.50	1,823,003.00	3,514,678.50			
Sub-Total	2,018,029.81	2,154,451.00	4,172,480.81			
Sub-Total Net User Revenues	12,055,730.22	13,000,000.00	25,055,730.22	13,639,205.00	14,656,684.00	28,295,889.00
Other Revenues						
Participation - Cities & Counties	4,984.45	25,000.00	29,984.45	25,000.00	50,000.00	75,000.00
Accounts Receivable	258,931.49	950,000.00	1,208,931.49	750,000.00	450,000.00	1,200,000.00
Sub-Total Other Revenues	263,915.94	975,000.00	1,238,915.94	775,000.00	500,000.00	1,275,000.00
Total Useable Revenues	27,983,630.16	33,224,650.00	61,208,280.16	39,639,205.00	37,156,684.00	76,795,889.00

Note: Projected Highway User Revenues shown for 1963-64 and 1964-65 are net amounts after refunds, Administration, Collection Costs, etc.

FEDERAL AID AND STATE REVENUES BY FISCAL YEARS 1917-1962

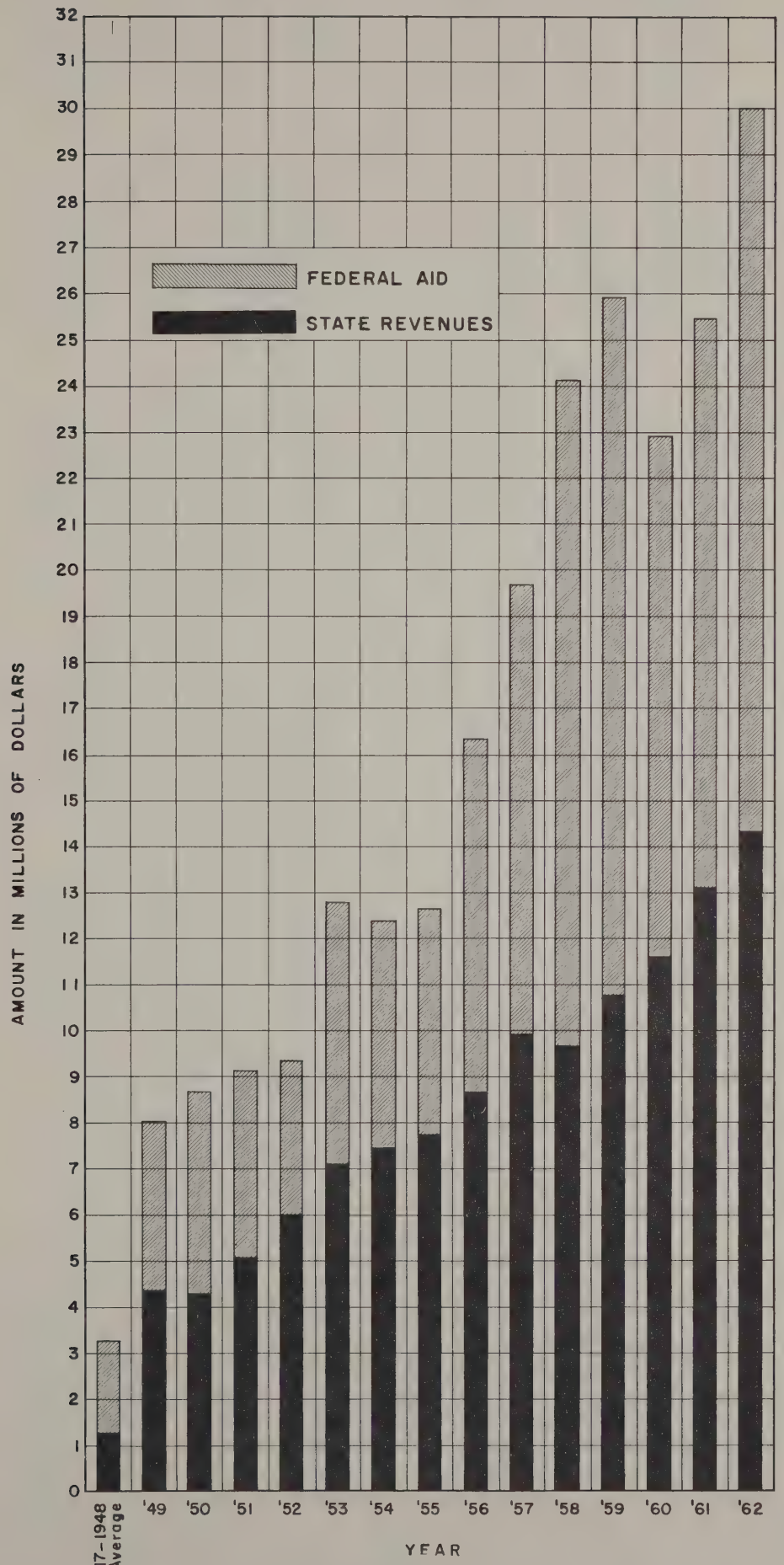


TABLE 19

HISTORICAL RECORD - REVENUES

ITEMS	1917-1956	1957-1958	1959-1960	1961-1962	TOTAL TO DATE
Highway User Revenues:					
Fuel Taxes	$ 60,103,074.69	$ 12,436,529.32	$ 14,348,686.74	$ 16,997,371.54	$ 103,885,662.29
Registration Fees	10,709,108.50	2,475,022.00	2,791,302.44	3,828,653.80	19,804,086.74
Carrier Fees	15,241,143.73	4,080,874.10	4,555,762.35	5,685,419.30	29,563,199.48
Drivers Licenses	984,909.31	324,053.45	345,844.65	437,589.28	2,092,396.69
Sub Total	87,038,236.23	19,316,478.87	22,041,596.18	26,949,033.92	155,345,345.20
Participation By Others:					
Federal Aid	95,505,819.08	24,287,504.91	26,498,201.13	27,915,222.00	174,206,747.12
Cities and Counties	4,874,664.30	-0-	59,074.35	13,642.96	4,947,381.61
Other Participation	533,165.72	45,321.14	24,755.31	-0-	603,242.17
Sub Total	100,913,649.10	24,332,826.05	26,582,030.79	27,928,864.96	179,757,370.90
Other Revenues:					
Miscellaneous	4,075,093.82	-0-	-0-	-0-	4,075,093.82
Accounts Receivable	1,820,000.89	241,240.06	245,969.08	602,603.58	2,909,813.61
Sub Total	5,895,094.71	241,240.06	245,969.08	602,603.58	6,984,907.43
TOTAL REVENUES	193,846,980.04	43,890,544.98	48,869,596.05	55,480,502.46	342,087,623.53
Less: Disbursements - Table	183,320,289.35	42,038,146.28	45,180,695.64	48,162,071.89	318,701,203.16
Less: Refunds & Collection Cost - Table	8,227,555.61	2,133,566.60	2,619,442.78	3,828,818.31	16,809,383.30
Less: Fund Transfers	92,452.02	157,547.98	-0-	904,000.00	1,154,000.00
HIGHWAY FUND BALANCE	$ 2,206,683.06	$ 1,767,967.18	$ 2,837,424.81	$ 5,423,037.07	$ 5,423,037.07

TABLE 20

HISTORICAL RECORD OF FEDERAL PARTICIPATION

1917 - 1962

FISCAL YEAR	CONSTRUCTION & CONSTRUCTION ENGINEERING	RESEARCH & INVESTIGATION (PLANNING)	RIGHT OF WAY	PRELIMINARY ENGINEERING	TOTAL FEDERAL AID
1917 - 1956	94,513,126.97	992,692.11	---	---	95,505,819.08
1957	9,616,733.50	140,931.48	---	---	9,757,664.98
1958	13,880,019.21	293,080.72	356,740.00	---	14,529,839.93
1959	14,045,714.55	318,858.00	56,254.00	760,069.00	15,180,895.55
1960	9,839,696.58	247,917.00	365,627.00	864,065.00	11,317,305.58
1961	10,948,751.00	485,171.00	316,045.00	501,271.00	12,251,238.00
1962	14,230,517.00	376,774.00	301,124.00	755,569.00	15,663,984.00
TOTALS	167,074,558.81	2,855,424.31	1,395,790.00	2,880,974.00	174,206,747.12

TABLE 21

DEPARTMENT FINANCIAL HISTORY

REVENUES

FEDERAL AID REIMBURSEMENTS	174,206,747
STATE SOURCES	167,880,876
SUB TOTAL GROSS	342,087,623
LESS: REFUNDS & COLLECTION COSTS	16,809,383
TOTAL RECEIPTS	325,278,240

DISBURSEMENTS

CONSTRUCTION	213,232,766
MAINTENANCE	55,312,727
R W & PRELIM. ENGINEERING	24,320,420
ADMINISTRATION	25,835,289
TOTAL DISBURSEMENTS	318,701,203

EXPENDITURES

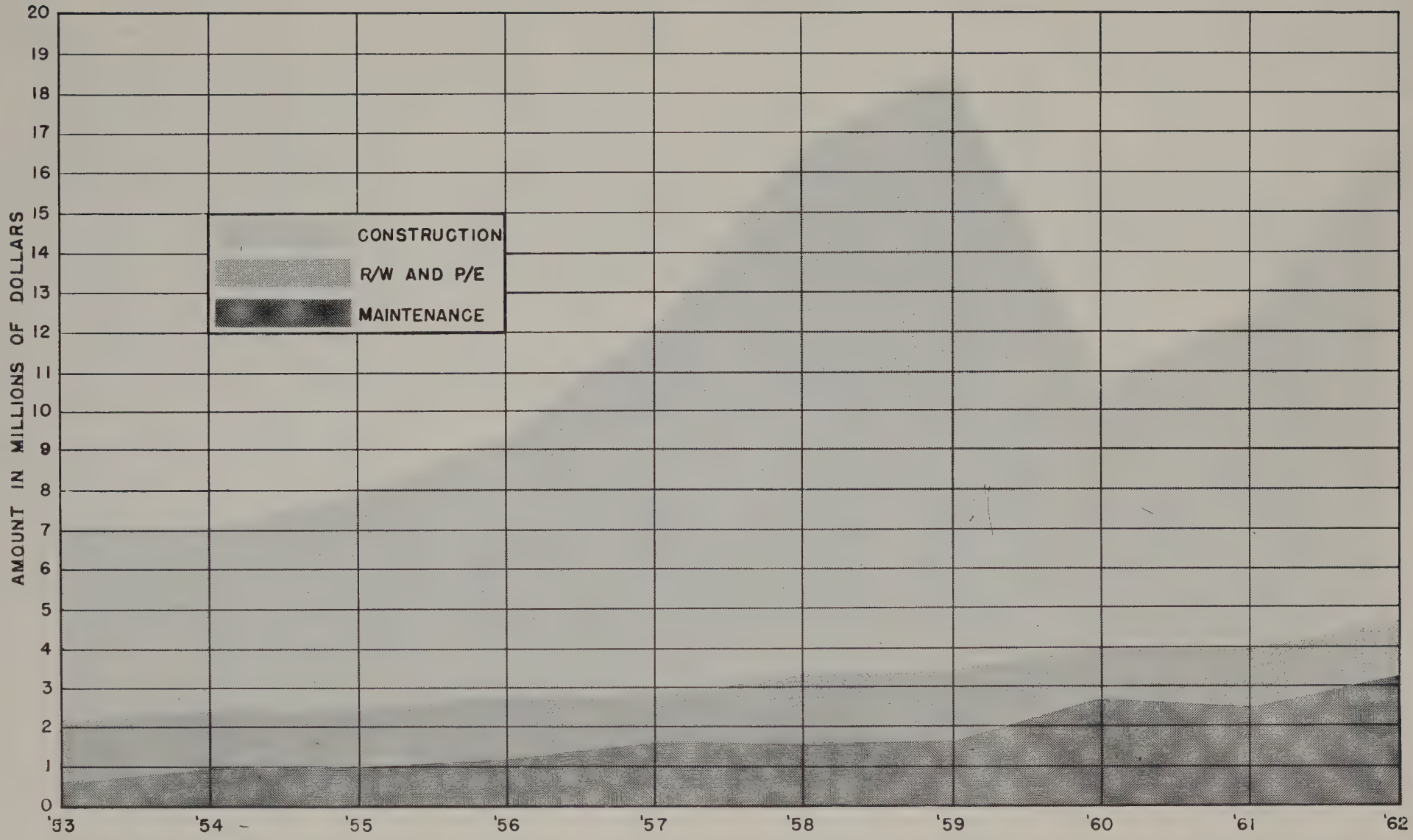


TABLE NO. 22

FEDERAL & STATE PROPORTION OF EXPENDITURES

RIGHT OF WAY & PRELIMINARY ENGINEERING

YEAR	TOTAL R/W & PRE. ENGR. COSTS	FEDERAL SHARE	%	STATES SHARE	%
1958	$ 2,000,805.75	$ 356,740.00	17.8 %	$ 1,644,065.75	82.2 %
1959	2,255,665.68	816,323.00	36.2 %	1,439,342.68	63.8 %
1960	2,700,844.16	1,229,692.00	45.5 %	1,471,152.16	54.5 %
1961	2,477,351.46	817,316.00	33.0 %	1,660,035.46	67.0 %
1962	3,203,997.87	1,056,693.00	33.0 %	2,147,304.87	67.0 %
Total 5 Years	12,638,664.92	4,276,764.00	33.8 %	8,361,900.92	66.2 %

CONSTRUCTION & CONSTRUCTION ENGINEERING (INCLUDES PLANNING)

YEAR	TOTAL CONSTRUCTION & ENGINEERING	FEDERAL SHARE	%	STATES SHARE	%
1958	$16,665,945.67	$14,173,099.93	85.0 %	$ 2,492,845.74	15.0 %
1959	18,352,194.37	14,364,572.55	78.3 %	3,987,621.82	21.7 %
1960	11,370,292.61	10,087,613.58	88.7 %	1,282,679.03	11.3 %
1961	13,159,422.97	11,433,922.00	86.9 %	1,725,500.97	13.1 %
1962	17,832,918.62	14,607,291.00	81.9 %	3,225,627.62	18.1 %
Total 5 Years	77,380,774.24	64,666,499.06	83.6 %	12,714,275.18	16.4 %

STATE OF NEVADA - DEPARTMENT OF HIGHWAYS

TABLE 23

ESTIMATED DISBURSEMENTS OF THE HIGHWAY DEPARTMENT FOR THE
1964-1965 BIENNIUM WITH COMPARISONS TO THE 1962-1963 BIENNIUM

	1962 Actual	1963 Work Program	Biennium Totals	1964 Agency Request	1965 Agency Request	Estimated Biennium totals
DISBURSEMENTS:						
Construction & Engineering						
Federal (By Reimbursement)						
Right of Way	301,124.00	1,250,000.00	1,551,124.00	2,290,000.00	3,450,000.00	5,740,000.00
Preliminary Engineering	755,569.00	1,300,000.00	2,055,569.00	1,805,000.00	1,600,000.00	3,405,000.00
Construction Engineering	452,925.00	950,000.00	1,402,925.00	1,750,000.00	1,000,000.00	2,750,000.00
Construction	13,777,592.00	15,399,650.00	29,177,242.00	18,980,000.00	15,550,000.00	34,530,000.00
Planning - Research & Investigation	376,774.00	350,000.00	726,774.00	400,000.00	400,000.00	800,000.00
Sub-Total	15,663,984.00	19,249,650.00	34,913,634.00	25,225,000.00	22,000,000.00	47,225,000.00
State (Matching)						
Right of Way	1,187,289.98	750,000.00	1,937,289.98	460,000.00	550,000.00	1,010,000.00
Preliminary Engineering	960,014.89	550,000.00	1,510,014.89	200,000.00	605,000.00	805,000.00
Construction Engineering	1,428,069.87	1,000,000.00	2,428,069.87	300,000.00	1,200,000.00	1,500,000.00
Construction	1,666,076.07	3,460,350.00	5,126,426.07	665,000.00	5,770,000.00	6,435,000.00
Planning - Research & Investigation	131,481.68	250,000.00	381,481.68	200,000.00	250,000.00	450,000.00
Sub-Total	5,372,932.49	6,010,350.00	11,383,282.49	1,825,000.00	8,375,000.00	10,200,000.00
Sub-Total, Construction & Engineering	21,036,916.49	25,260,000.00	46,296,916.49	27,050,000.00	30,375,000.00	57,425,000.00
Maintenance						
Routine Roadway	1,119,628.75	1,500,000.00	2,619,628.75	1,625,000.00	1,850,000.00	3,475,000.00
Special Surface	114,214.70	150,000.00	264,214.70	200,000.00	350,000.00	550,000.00
Shoulders & Approaches	119,687.20	225,000.00	344,687.20	275,000.00	450,000.00	725,000.00
Roadside & Drainage	1,174,454.58	1,500,000.00	2,674,454.58	1,700,000.00	1,900,000.00	3,600,000.00
Traffic Services	967,017.79	1,100,000.00	2,067,017.79	1,400,000.00	1,950,000.00	3,350,000.00
Snow, Ice & Floods	1,073,850.18	750,000.00	1,823,850.18	750,000.00	950,000.00	1,700,000.00
Structures	16,339.69	45,000.00	61,339.69	75,000.00	125,000.00	200,000.00
Headquarters - Administration	26,790.52	30,000.00	56,790.52	35,000.00	50,000.00	85,000.00
Sub-Total, Maintenance	4,611,983.41	5,300,000.00	9,911,983.41	6,060,000.00	7,625,000.00	13,685,000.00
Other						
General Administration	232,622.62	200,000.00	432,622.62	210,000.00	270,000.00	480,000.00
Buildings (Includes Contracts)	389,924.55	400,000.00	789,924.55	800,000.00	1,250,000.00	2,050,000.00
Public Hearings	53,230.48	75,000.00	128,230.48	85,000.00	100,000.00	185,000.00
General Offices (Headquarters)	461,722.61	475,000.00	936,722.61	500,000.00	650,000.00	1,150,000.00
Highway & Parks Magazine	41,504.90	40,000.00	81,504.90	50,000.00	70,000.00	120,000.00
Official State Road Map	30,942.37	10,000.00	40,942.37	35,000.00	50,000.00	85,000.00
Public Relations	51,546.13	50,000.00	101,546.13	55,000.00	60,000.00	115,000.00
Special Traffic Studies	29,520.39	35,000.00	64,520.39	40,000.00	50,000.00	90,000.00
Equipment & Plants	124,034.57 CR	105,000.00	19,034.57 CR	65,000.00	100,000.00	165,000.00
Headquarters Office Building	-----	700,000.00	700,000.00	1,800,000.00	-----	1,800,000.00
Accounts Receivable	280,478.56	350,000.00	630,478.56	250,000.00	400,000.00	650,000.00
Sub-Total, Other	1,447,458.04	2,440,000.00	3,887,458.04	3,890,000.00	3,000,000.00	6,890,000.00
TOTAL	27,096,357.94	33,000,000.00	60,096,357.94	37,000,000.00	41,000,000.00	78,000,000.00

TABLE 24

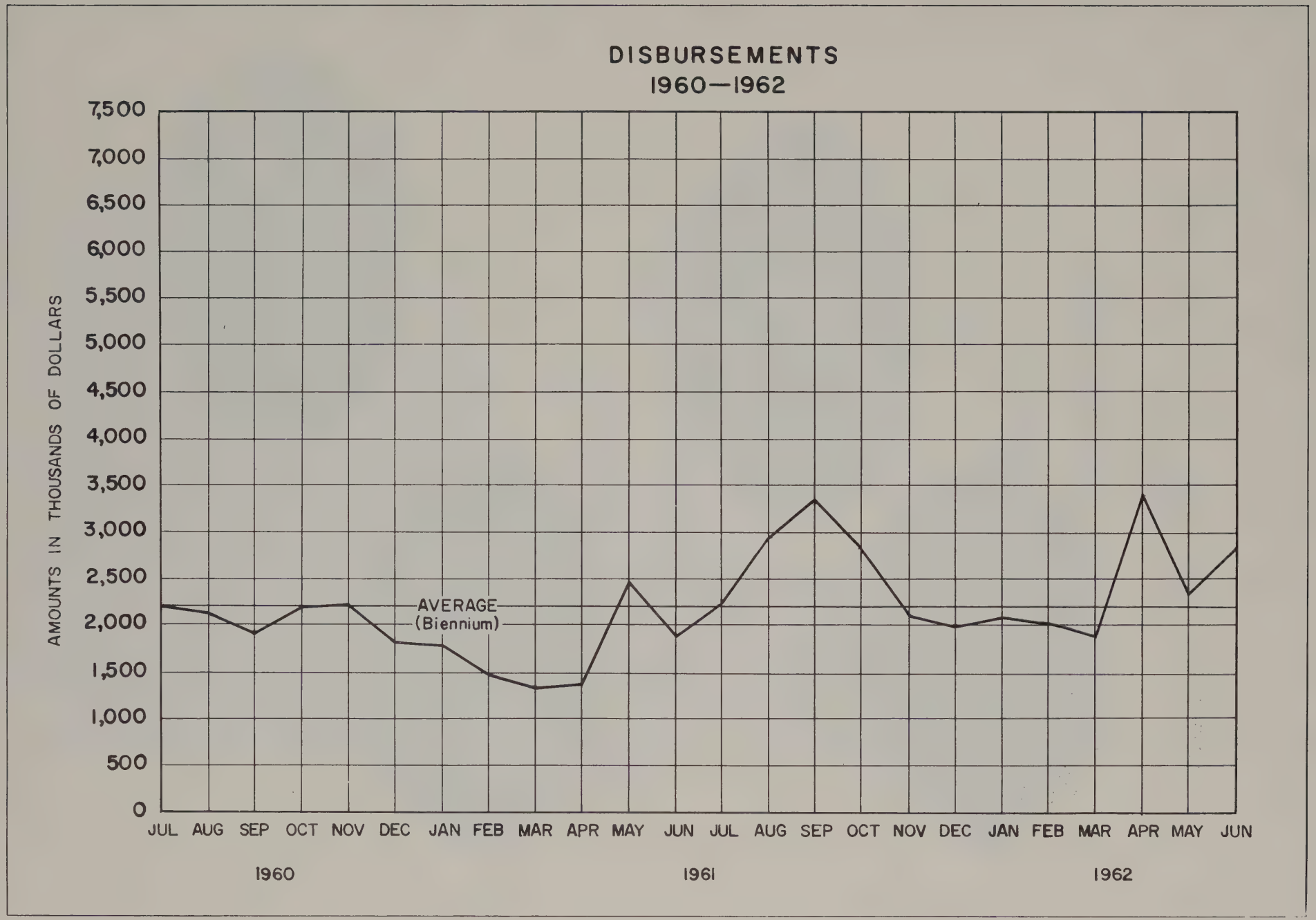
COMPARISON THE LAST TEN YEAR PERIOD

CONSTRUCTION & ENGINEERING EXPENDITURES

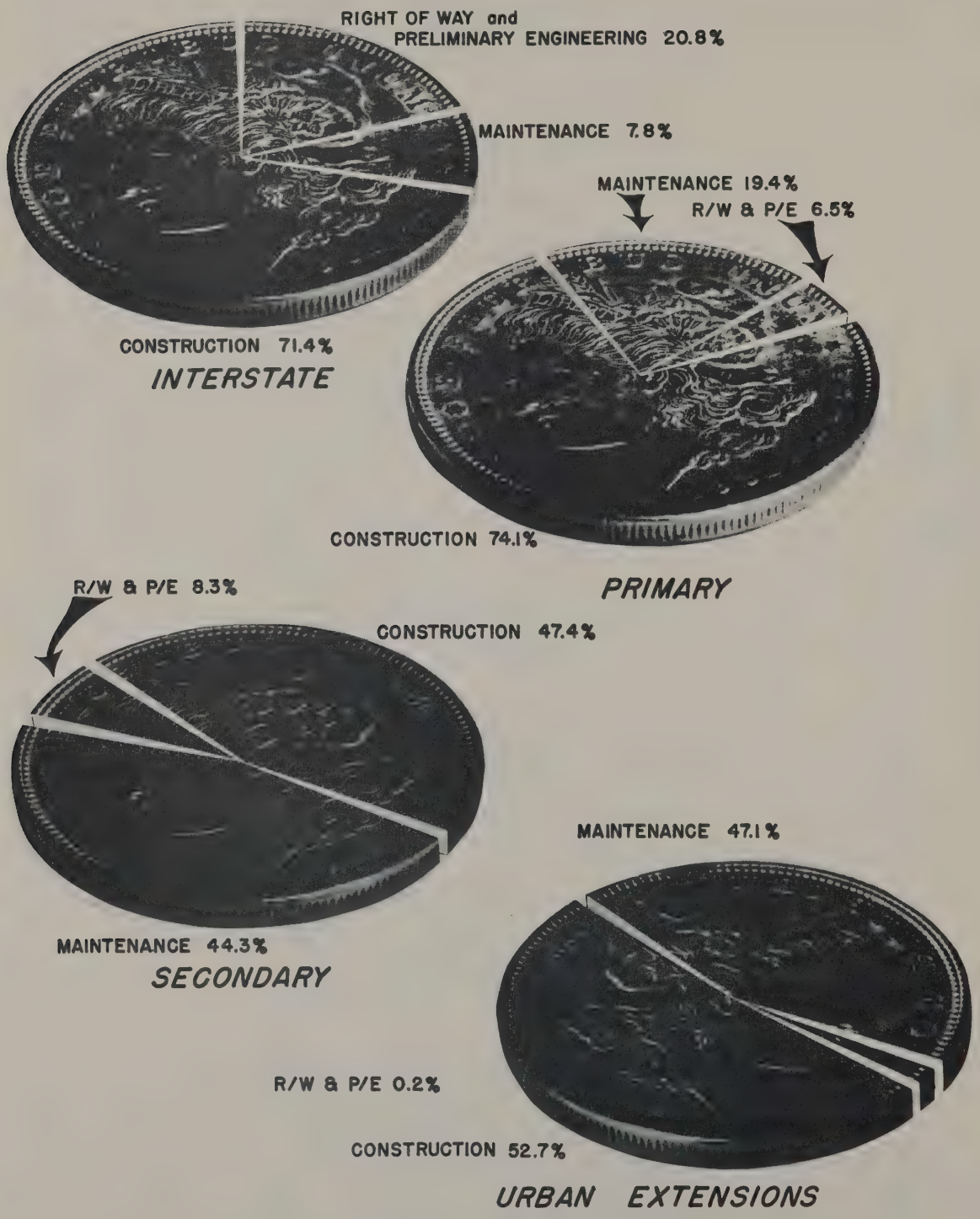
PERIOD (FISCAL YEARS)	CONTRACTOR'S PAYMENTS	CONSTRUCTION ENGINEERING	PRELIMINARY ENGINEERING	RIGHT OF WAY (INCLUDES ACQUISITION)	SUB TOTAL	STATE CONST. ADD. & BETTERS.	RESEARCH & INVEST. (PLANNING)	TOTAL CONST. & ENGINEERING
1953	6,362,897.05	732,571.73	422,954.17	157,781.85	7,676,204.80	111,313.55	162,464.43	7,949,982.78
1954	6,265,526.24	831,127.10	563,270.04	386,498.73	8,046,422.11	130,692.75	165,442.14	8,342,557.00
1955	7,032,300.05	840,181.81	697,121.71	312,145.35	8,881,748.92	194,787.14	176,726.63	9,253,262.69
1956	8,244,100.81	1,105,450.57	794,974.47	400,979.31	10,545,505.16	215,481.93	242,588.68	11,033,575.77
1957	10,774,843.77	1,380,709.02	954,444.64	655,963,16	13,765,960.59	387,994.03	290,492.92	14,444,447.54
1958	15,305,862.64	1,372,105.82	1,094,137.02	471,636.73	18,243,742.21	276,108.01	399,518.65	18,919,368.87
1959	16,986,542.21	1,645,073.81	1,091,190.26	515,056.95	20,237,863.23	315,163.03	440,557.37	20,993,583.63
1960	9,509,236.61	1,147,603.58	1,494,399.38	1,202,330.73	13,353,570.30	358,700.49	505,856.98	14,218,127.77
1961	11,067,884.63	1,401,860.62	1,616,167.39	861,184.07	14,947,096.71	552,478.19	476,134.93	15,975,709.83
1962	15,174,577.23	1,880,994.87	1,715,583.89	1,488,413.98	20,259,569.97	576,260.15	508,255.68	21,344,085.80

Note: The expenditures in 1958 and 1959 include special "D" Fund Projects which increase the construction operations over the normal expenditure level.

The "D" Funds came from a program of the Federal Government to stimulate construction operations and therefore reduce a national recession trend.


DISBURSEMENTS
1960—1962
AMOUNTS IN THOUSANDS OF DOLLARS
7,500
7,000
6,500
6,000
5,500
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
AVERAGE
(Biennium)
JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN
1960
1961
1962

Expenditure Percentages by System Type
BIENNIUM



Does Not Include Refunds and Administration Costs, etc.
or Highway Department Non-System Expenditures.

YEARLY EXPENDITURES BY FISCAL YEARS 1917 1962

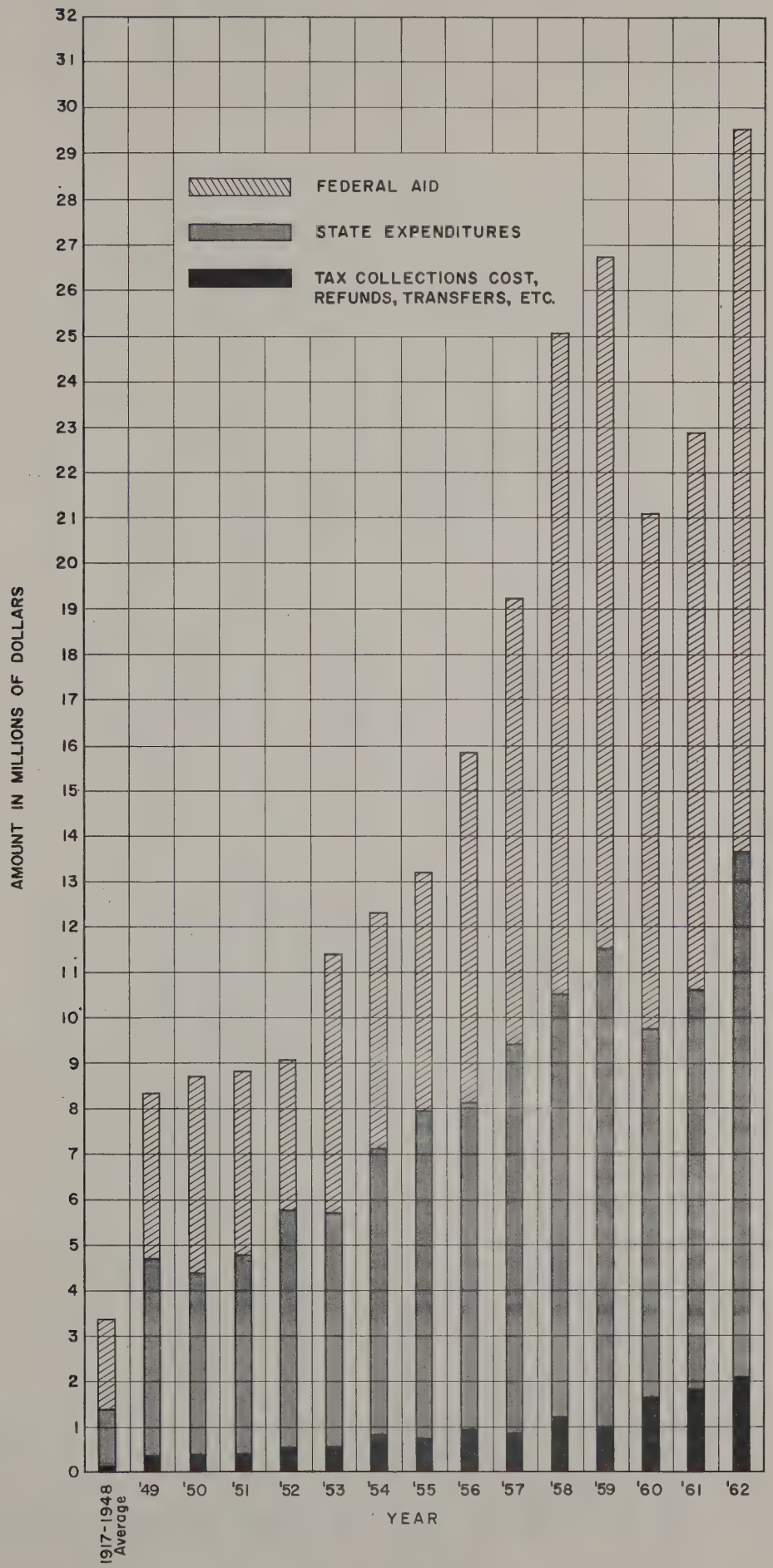


TABLE 25

HISTORICAL RECORD OF DISBURSEMENTS

1917 - 1962

ITEMS	1917-1956	1957-1958	1959-1960	1961-1962	TOTAL TO DATE
Right of Way & Preliminary Engineering	$ 10,071,347.33	$ 3,611,213.55	$ 4,956,509.84	$ 5,681,349.33	$ 24,320,420.05
Construction Accounts	122,821,502.03	28,444,682.26	28,776,072.63	30,007,950.98	210,050,207.90
Research & Investigation (Planning)	1,989,683.45	690,011.57	946,414.35	984,390.61	4,610,499.98
Sub Total	$ 134,882,532.81	$ 32,745,907.38	$ 34,678,996.82	$ 36,673,690.92	$ 238,981,127.93
Maintenance	33,258,692.69	6,078,761.66	7,442,753.91	8,532,519.50	55,312,727.76
Equipment and Plants	4,731,051.33	760,425.70	697,934.39	145,478.41	6,043,933.01
Buildings	2,679,514.69	975,722.38	644,265.33	800,905.18	5,100,407.58
Publications and Information	653,238.52	151,325.75	178,081.71	207,802.93	1,190,448.91
Special Traffic Counts	244,241.60	45,979.84	48,805.65	57,265.48	396,292.57
General Administration	5,024,719.42	994,574.17	1,139,315.98	1,447,773.28	8,606,382.85
Accounts Receivable	1,846,298.29	285,449.40	350,541.85	587,593.01	3,069,882.55
TOTAL	$ 183,320,289.35	$ 42,038,146.28	$ 45,180,695.64	$ 48,162,071.89	$ 318,701,203.16

TABLE 26

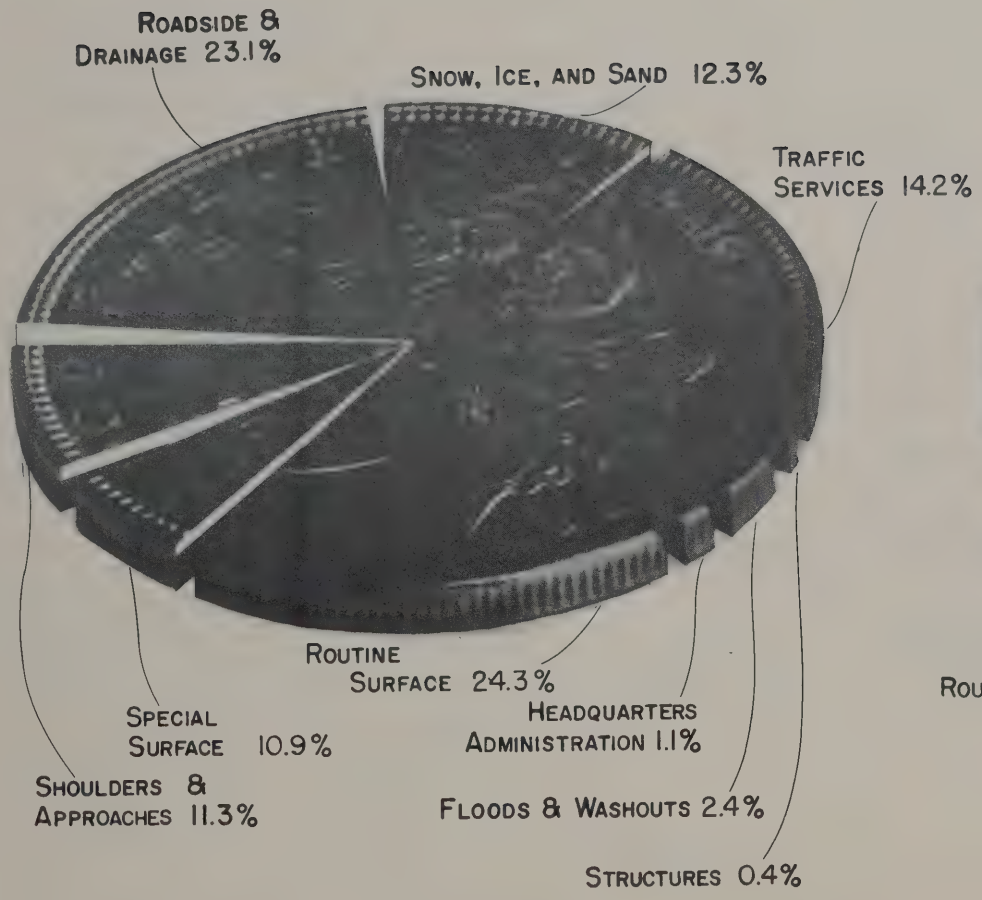
HISTORICAL RECORD OF REFUNDS & COLLECTION COSTS

BIENNIAL PERIODS

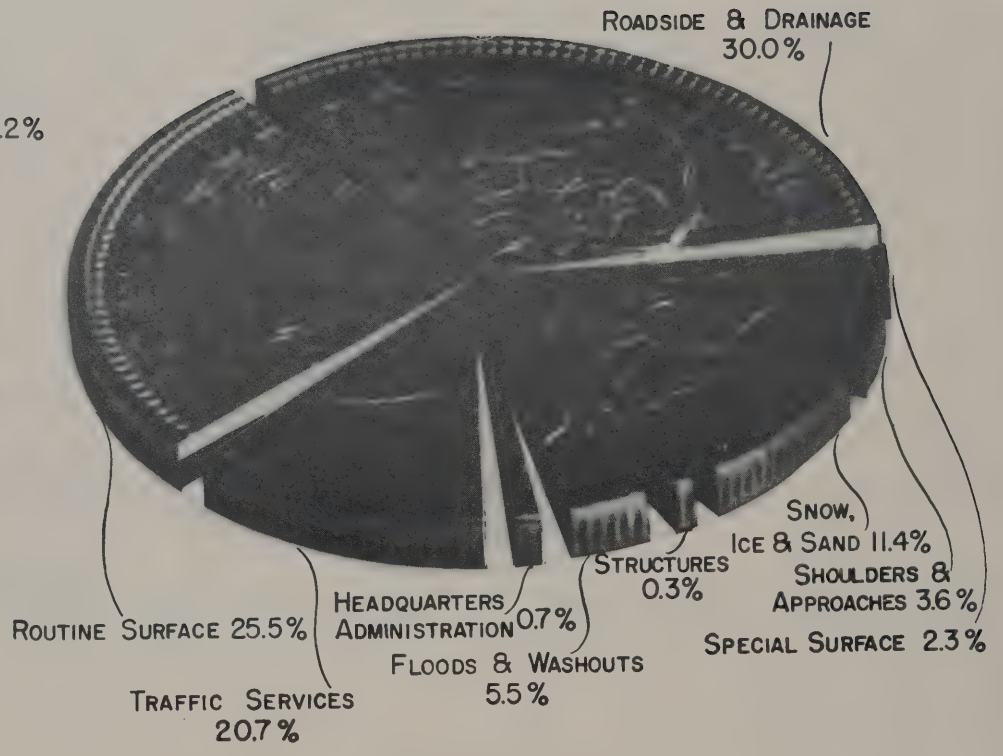
ITEMS	1917 - 1956	1957 - 1958	1959 - 1960	1961 - 1962	TOTAL TO DATE
Fuel Tax Administration	$ 340,377.11	$ 84,436.35	$ 64,635.59	$ 44,221.13	$ 533,670.18
Fuel Tax Refunds	3,414,303.02	534,944.11	465,632.68	486,516.41	4,901,396.22
Public Service Commission	782,096.33	94,538.50	7,993.00 CR	56,268.20	924,910.03
Department of Motor Vehicles	-0-	7,573.00	252,406.21	754,371.14	1,014,350.35
Drivers License Division	881,607.15	248,174.59	320,315.98	420,251.75	1,870,349.47
Highway Patrol	1,979,328.91	806,035.45	995,100.27	1,314,707.10	5,095,171.73
Motor Vehicle Registrations	544,114.16	294,643.65	409,447.25	488,335.53	1,736,540.59
Motor Carrier Division	-0-	38,584.00	98,759.56	207,258.14	344,601.70
Common Carrier Refunds	33,453.75	24,636.95	21,138.24	56,888.91	136,117.85
Miscellaneous	252,275.18	-0-	-0-	-0-	252,275.18
TOTALS	$ 8,227,555.61	$ 2,133,566.60	$ 2,619,442.78	$ 3,828,818.31	$ 16,809,383.30

Maintenance Expenditures

AVERAGE
1951-1960



BIENNIUM
1961-1962



COMPARATIVE MAINTENANCE COSTS

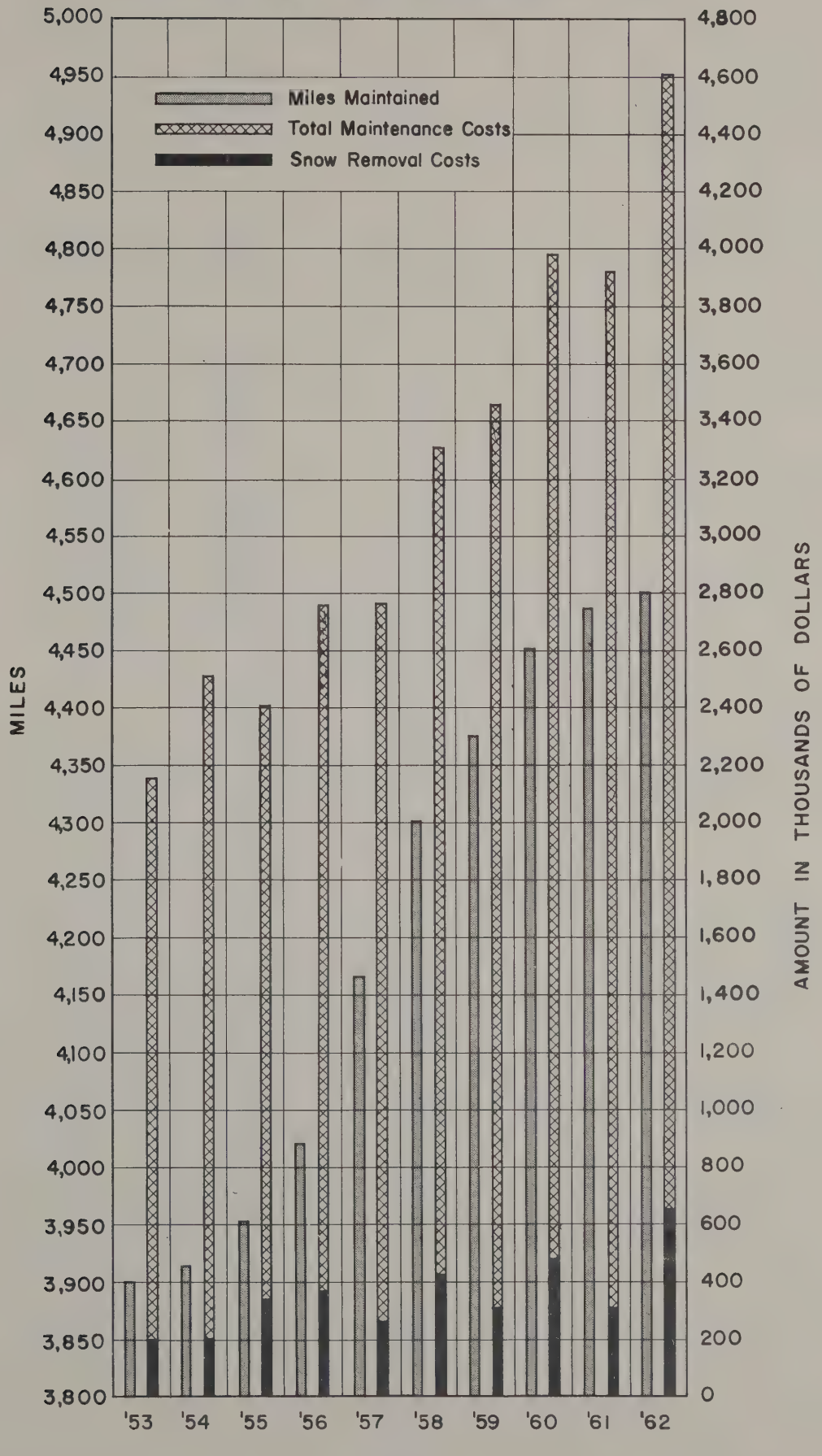


TABLE 28

EXEPNDITURES FOR VARIOUS MAINTENANCE OPERATIONS

DESCRIPTION	F.Y. 1961	F.Y. 1962	TOTAL 1961-62	PERCENT
Routine roadway operations:				
Patching holes and ruts - spot sealing	589,808.13	601,425.18	1,191,233.31	13.96 %
Dragging, blading, and reshaping	29,904.62	24,597.99	54,502.61	.64 %
Filling, trimming, expansion joints, cracks	20,706.09	17,958.35	38,664.44	.45 %
Applying light seal and blotter or chips	421,202.66	475,647.23	896,849.89	10.51 %
Sub Totals	1,061,621.50	1,119,628.75	2,181,250.25	25.56 %
Special roadway operations:				
Applying dust pallaitives	522.50	305.05	827.55	.01 %
Replacement of gravel, crushed stone	2,043.44	2,423.11	4,466.55	.05 %
Reprocessing bituminous surface	21,582.18	45,435.44	67,017.62	.79 %
Bituminous surface treatment	59,198.67	66,051.10	125,249.77	1.47 %
Sub Totals	83,346.79	114,214.70	197,561.49	2.32 %
Shoulders and approaches:				
Shoulder patch and minor washouts	144,881.37	86,019.62	230,900.99	2.71 %
Bituminous shoulder treatment	36,447.66	27,932.29	64,379.95	.75 %
Reprocessing bituminous shoulders	2,134.12	5,735.29	7,869.41	.09 %
Sub Totals	183,463.15	119,687.20	303,150.35	3.55 %
Roadside and Drainage:				
Repair of cuts, fills, slopes	525,353.55	381,367.10	906,720.65	10.63 %
Cleaning, retrenching drains	221,559.14	196,127.04	417,686.18	4.90 %
Removal of weeds	285,925.34	255,916.16	541,841.50	6.35 %
Removal of derbis	297,403.25	272,264.31	569,667.56	6.68 %
Landscaping roadsides	9,418.36	6,704.42	16,122.78	.19 %
Maintenance of sidewalks, dikes	42,714.83	61,983.02	104,697.85	1.23 %
Headquarters control	35.07	92.53	127.60	.00 %
Sub Totals	1,382,409.54	1,174,454.58	2,556,864.12	29.98 %
Traffic Services:				
Repairs to signs, safety devices	421,986.06	489,075.71	911,061.77	10.68 %
Removal of advertising signs	1,810.60	3,373.76	5,184.36	.06 %
Traffic land and center striping	184,496.90	271,441.34	455,938.24	5.34 %
Maintenance of guardrails	46,858.36	36,501.36	83,359.72	.98 %
Highway and Bridge lighting	8,332.99	10,122.17	18,455.16	.22 %
Maintenance of roadside rests	43,574.56	45,711.33	89,285.89	1.05 %
Pedestrian crossing markings	20,138.63	33,799.25	53,937.88	.63 %
Patrolling	68,572.93	76,992.87	145,565.80	1.70 %
Sub Totals	795,771.03	967,017.79	1,762,788.82	20.66 %
Snow, ice, and sand control:				
Snow fence and markers	38,575.15	60,471.93	99,047.08	1.16 %
Removal of snow and ice	173,339.55	418,273.44	591,612.99	6.93 %
Sanding, salting icy surfaces	96,220.84	171,951.87	268,172.71	3.14 %
Open waterways and drains	1,953.01	3,595.40	5,548.41	.07 %
Removal of sand drifts	3,670.94	6,313.77	9,984.71	.12 %
Maintenance Road blocks	278.85	170.47	449.32	.00 %
Sub Totals	314,038.34	660,776.88	974,815.22	11.42 %
Structures:				
Cleaning, opening channels	2,673.20	2,904.34	5,577.54	.07 %
Repairs to structures	2,305.47	2,957.84	5,263.31	.06 %
Painting structures	3,034.11	6,699.60	9,733.71	.11 %
Maintaining pumping plants	1,975.54	2,578.76	4,554.30	.05 %
Bridge and cluvert inspectors	1,325.76	1,199.15	2,524.91	.03 %
Sub Totals	11,314.08	16,339.69	27,653.77	.32 %
Special Maintenance, Floods, Washouts, etc.	56,223.44	413,073.30	469,296.74	5.50 %
Total direct expenditures	3,888,187.87	4,585,192.89	8,473,380.76	99.31 %
Maintenance Administration - Headquarters	32,348.22	26,790.52	59,138.74	.69 %
Total for Fiscal Year	3,920,536.09	4,611,983.41	8,532,519.50	100.00 %
Total Miles Maintained	4,487.71	4,500.80		
Average cost per Mile (Includes snow removal)	$ 873.62	$ 1,024.70		
Average cost per Mile (Excludes snow removal)	803.64	877.89		

(5)	Concrete Pipe		
	(a) Absorption	19	
	(b) Compressive Strength	8	
	(c) Miscellaneous and Special	16	
(6)	Rip Rap Stone	17	
(7)	Air Entraining Agent	3	
(8)	Water for Concrete	11	
(9)	Mortar Sand	2	
(10)	Concrete Adhesives	1	
(11)	Steel		
	(a) Reinforcing Steel (bars)	287	
	(b) Structural Steel	22	
	(c) Miscellaneous	2	
(12)	Building Brick	20	
(13)	Soil Cement Stabilization		
	(a) 4" x 8" cylinders	490	
(14)	Special Tests		
	(a) Soundness Tests on Concrete Pipe, Transite and Drain Pipe	3	
	(b) Cement Reference Laboratory (Bureau of Standards, Washington, D.C.) cement samples	14	
	TOTAL		3,805

Asphalt Section

(1)	Liquid Asphalts	1,642	
(2)	Penetration Asphalts (asphaltic cement)	2,154	
(3)	Emulsified Asphalt	260	
(4)	Extractions	652	
(5)	Corrugated Metal Pipe	1,806	
(6)	Metal Wire	152	
(7)	Miscellaneous	89	
	TOTAL		6,755

Total of all samples tested in the Central Laboratory in Carson City 19,080

In addition the branch laboratory in Las Vegas ran the following tests:

(1)	Concrete Cylinders from projects	507	
(2)	Extractions	54	
(3)	Finished Products	139	
(4)	Coarse Aggregate for Concrete	17	
(5)	Fine Aggregate for Concrete	21	
(6)	Open Graded Plantmix	11	
(7)	Penetration Asphalt (asphaltic cement)	230	
(8)	Liquid Asphalt	105	
(9)	Emulsified Asphalt	32	
	TOTAL		1,116

Total for materials tested by both Carson City and Las Vegas Laboratories 20,196

DECEASED

July 1, 1960 to June 30, 1962

Haffey, John J.
Thomas, George
Schacht, Arthur
Pierce, Leon
Pohl, Ernest C.
Harris, Harold B.
Webb, David
Oatway, Charles E.
Becker, Floyd
Sullivan, John M.
Seider, Paul
Hancock, Len C.
Harlis, Paul J.
Smith, Charles F.
Rawls, Paul R.
Boegle, Frank
Vanlaningham, Ira
Abel, Elmer
Henry, Floyd
Bash, Calvin D.
Payer, Alexander

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